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No. 3

The Conqueror—A Victory Window

The original water-color of this Victory Window was lost in the fire that destroyed the Fine Arts Building, New York, on the opening night of the Architectural League Exhibition.

DESIGNED in 1916 by William Willet and Annie Lee Willet, and erected in 1919 as a thank offering for the safe return of her two sons by Louise L. Smith, in the Trinity Protestant Episcopal Church, Syracuse, N. Y., this window depicts the World War with Germany.

In the predella is shown a procession of the Allies approaching the sacrament before they enter the conflict—Belgian, French, British, Italian, Serbian, Russian, and American; soldiers, sailors, and aviators in their authentic national uniforms; suggested by an incident related of Marechal Foch. Some one asked him how the men had nerve to hold out at Verdun. He took them to a little underground hut chapel, and showed them a rude altar before a crucifixion of Christ on Calvary, saying: "This is where the men came for strength to fight and learned how to die."

In the upper tier are symbolized the four riders of the Apocalypse. In the centre the Black Horse—The Famine of the Word of God. The rider, a type of the higher-critic professor of the German Universities wearing his emperor's cross and trampling underfoot the divine Christ.

On the left is War—the rider on the Red Horse. Hate is his creed; his motto "Might is Right." The sky is aflame

with liquid fire and the trumpets blast forth the warning. Beneath are victims of the U-boats, a mother's arms are holding her infant above the waves—the periscope skulking away. The scroll reads: "We have made a covenant with death, and with hell are we at agreement." To the right the Pale Horse and he that sat upon him—Death holding his scythe and encircled by demons. Beneath are three vultures, symbolizing the enemy allies, Germany, Austria, and Turkey—they perch on skulls between which are the wooden crosses that mark the field of death.

The extreme left lancet shows an Armenian martyr crucified to the burning stake, one of the eight hundred thousand Armenian women who perished rather than deny the faith and desert the Allies when offered their freedom; in exchange for non-resistance they sent not only their men but all their boys to the trenches, two and one half million dying, and by their death held off the German hordes who would otherwise have succeeded at Verdun. Lurking in the background is a German officer giving the suggestion to the Turk.

The extreme right lancet shows the murder of Edith Cavell—the desecration of the Red Cross.

In the upper tier Heaven is typified; Christ on the White Horse bears the scroll, "In me you might have peace," while in the side lancets the strong archangels Gabriel and Raphael bring the souls of the maimed and slain children to our Lord. St. George and St. Michael weigh the souls of men—the weakest believers who pray being heavier in the scale of Heaven's justice than the most self-sufficient. The text running across the upper portion of the window is Christ's word as he drew near to Calvary, "Be of good cheer, I have overcome the world."

The window is carried out in the spirit of the late fifteenth-century perpendicular Gothic, and demonstrates the possibility of rendering the modern realism of the uniforms, etc., in strict conformity with the principles and traditions of the ancient art of stained glass with all its healing qualities of vibrant color and glorious harmony.



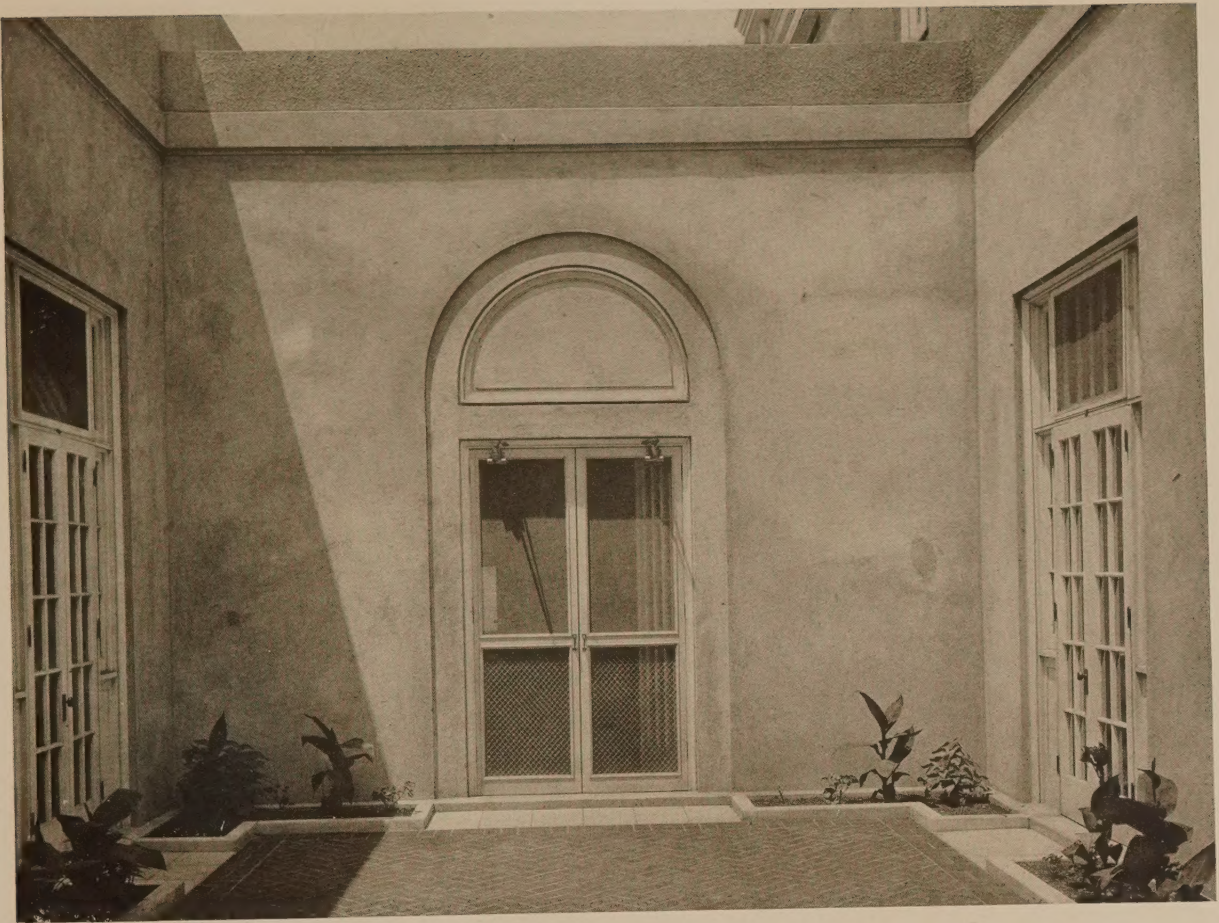
Amos (fragment). One of the clerestory windows of the U. S. Military Academy, West Point, dedicated to the memory of the departed alumni.



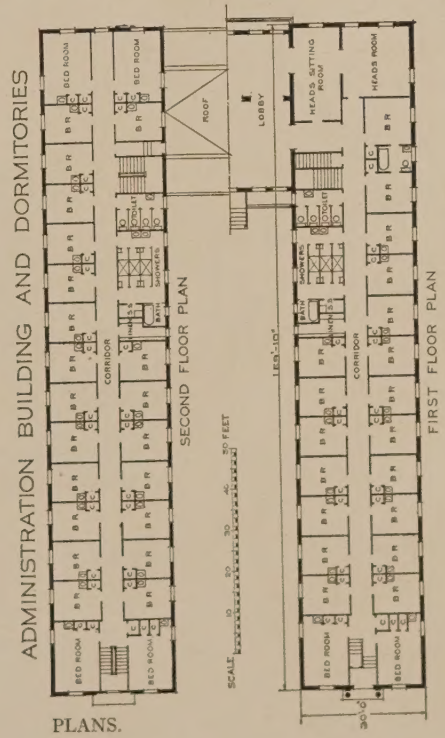
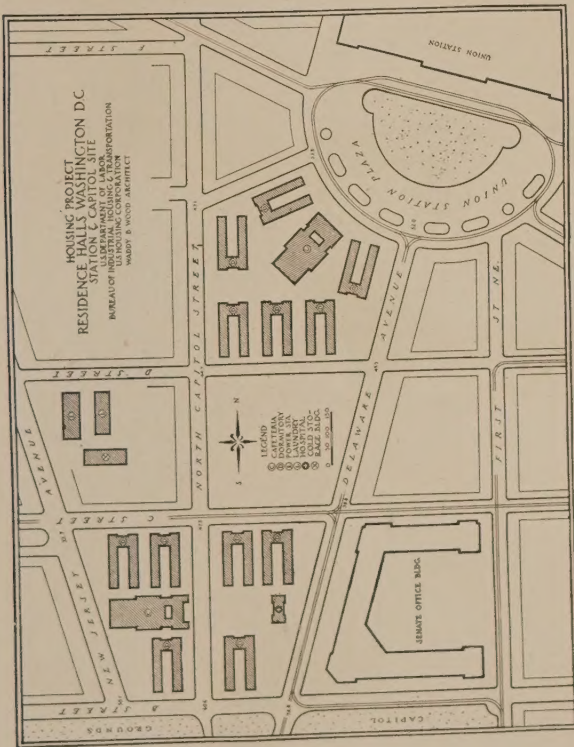
ADMINISTRATION AND DINING HALLS.

Waddy B. Wood, Architect for U. S. Housing Corporation.

CAPITOL AND UNION STATION GROUPS, RESIDENCE HALLS FOR WOMEN, WASHINGTON, D. C.



INTERIOR COURT.



PLANS.

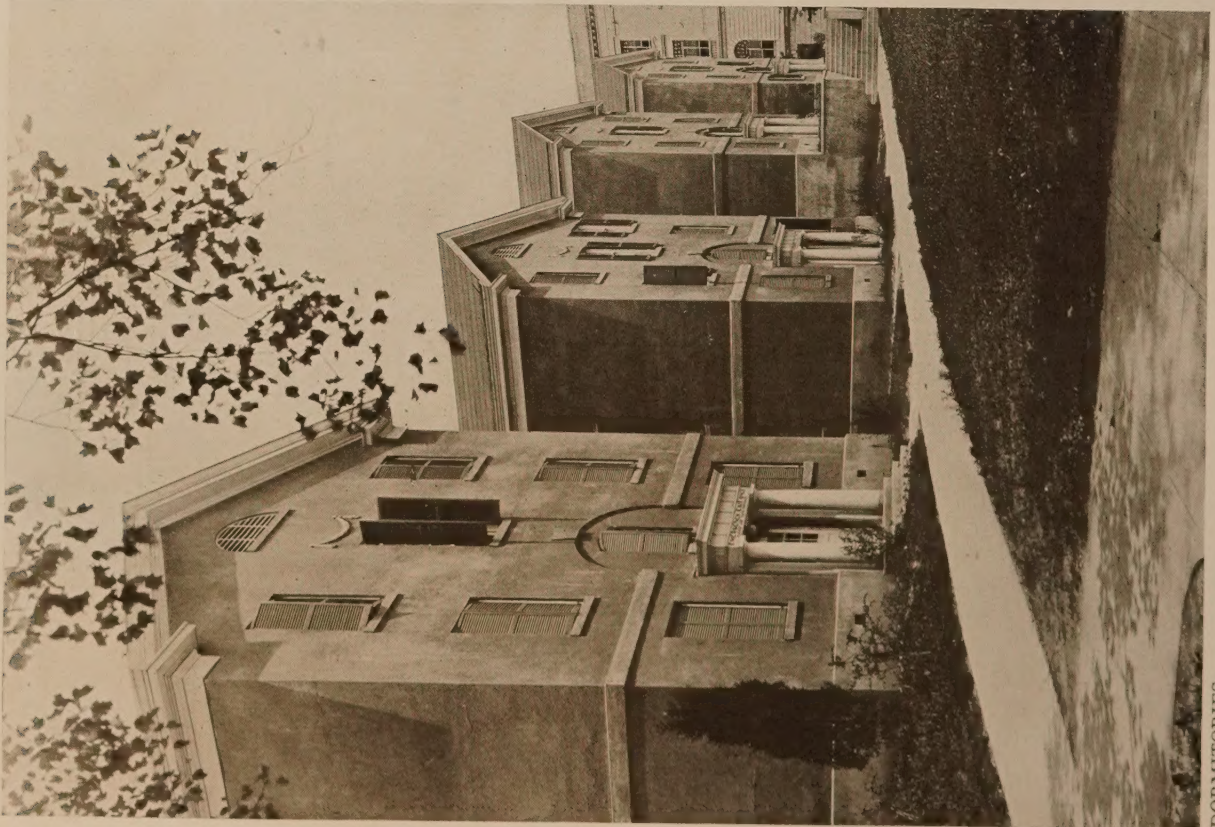
Waddy B. Wood, Architect for U. S. Housing Corporation.

CAPITOL AND UNION STATION GROUPS, RESIDENCE HALLS FOR WOMEN, WASHINGTON, D. C.



TYPICAL BEDROOM.

Waddy B. Wood, Architect for U. S. Housing Corporation.
CAPITOL AND UNION STATION GROUPS, RESIDENCE HALLS FOR WOMEN, WASHINGTON, D. C.



DORMITORIES.



COMMON ROOM.



SITTING-ROOM.

Waddy B. Wood, Architect for U. S. Housing Corporation.

CAPITOL AND UNION STATION GROUPS, RESIDENCE HALLS FOR WOMEN, WASHINGTON, D. C.

The Minnesota Historical Society Building

By Stirling Horner

FOR many years the work of the Minnesota Historical Society has been hampered by the inadequacy of its quarters in the basement of the Capitol. Thousands of books and numberless pictures and museum articles have had to be stored in boxes in the sub-basement or left in the Old Capitol where they were in constant danger of destruction by fire, while members of the staff had to work in all sorts of cubby-holes and dark corners. Finally, after much earnest effort on the part of members of the society and

of others who believe in the preservation of the materials for the history of the State, the legislature passed an act appropriating five hundred thousand dollars for the construction by the State board of control of a building for the society and the supreme court. This act provided for the acceptance by the State of a donation of seventy-five thousand dollars from the private funds of the society to be used in purchasing a site for the building and in equipping the part of it to be occupied by the society. The site selected had to have the approval of both the society and the board of control. Many members of the society favored the



Standard at entrance.

so-called Lamprey site southeast of the Capitol on the corner of Cedar Street and Central Avenue, where the building would overlook the plaza in front of the Capitol and would fit in with the plans worked out by Cass Gilbert for the development of Capitol approaches. The board of control, however, selected the Merriam site, a large tract located directly northeast of the Capitol, and the executive council of the society finally approved of the selection and paid over the money for its purchase.

In the meantime a still more serious difficulty arose. The architect selected, Mr. Clarence H. Johnston, of St. Paul, together with members of the supreme court and the secretary of the society, visited buildings of a similar character in the neighboring States for the purpose of ascertaining what was necessary in the construction of the proposed building. After this and other investigations, it was found, from estimates made by the architect, that a building suitable and adequate for both the society and the supreme court could not be constructed within the limits of the appropriation.

The site finally chosen for the new home of the society is ideal. Flanking the Capitol on the right, it occupies an important eminence, from which a commanding view may be obtained of the city and its environs. The building may be seen to best advantage by the visitor who approaches it from the Capitol mall. The Roman Renaissance style has in this instance been reduced to its simplest elements. The strength of the principal façade, the west, resides in the simple, clear, and thoroughly monumental articulation

of all its parts. The central motive, an Ionic colonnade, has a just degree of projection, and the recessed loggia with its entrance portals and windows has been so designed as to line and mass that, while sufficiently subordinated to the colonnade, it is also sufficiently emphasized for its own sake. So, likewise, the end masses with their breadth of unbroken stonework have the proper accent but do not unduly assert themselves. It might be called a long, low edifice, but the attic, looming up above the main cornice with just a suggestion of the variegated tile and immense skylight which roof the building, and the balustraded terraces flanking the main façade, provide the needed corrective. Outside the building as within, grave dignity rules, ornament being sparsely used, the little of it that is introduced being handled with severe taste. The warmth of the stone itself, the note of color delicately struck in the bronze doors of the main portal, in the window casings, and in the roof, and the vivid tints of nature in the foreground—all these make more intimate, more humanly interesting the appeal of this imposing edifice.

The architect may indeed be congratulated upon the structure which was wrought under his guidance. It will stand not alone as a monument to the pioneers of Minnesota and of the great Northwest and to its designer, but to the materials used in its construction. It is in truth a Minnesota building. The warm gray granite of which the exterior walls were built is from large quarries at Sauk Rapids. The marble of the main staircase and of the floors of the corridors and stack rooms was quarried at Kasota. Brick and clay fireproofing tile are produced at Chaska and Minneapolis respectively. The stone for the walls of the vestibule and entrance on the first floor was quarried from deposits at Frontenac.

An ideal plan is one in which utility and effect are both accounted for in such manner that the point at which the architect has changed his view-point from the one phase of his subject to the other is not apparent. It is on the virtue of such a scheme that the new home of the Minnesota Historical Society rests. This can be demonstrated in a few words. Let the layman who has little, if any, acquaintance with architectural plans as they are drawn upon paper imagine himself making a swift tour of the building from the entrance colonnade on Cedar Street to the galleries and museums which occupy the top floor. The portal itself with its colonnaded loggia is simple and stately and of majestic scale, but the actual entrance doorway is comparatively small. This central motive of the main façade is sufficiently emphasized with its simply carved stone doorway and beautifully modelled bronze doors, and a note of spaciousness, which would befit only some great exposition building or place of public entertainment, has been avoided. The entrance, in other words, is precisely the key to an institution of learning.

The quality of restraint thus encountered on the very threshold is felt throughout the building. Passing through the vestibule (103), we enter directly the vaulted entrance hall (104)—the main artery of the building. In the centre, on the east side, a generous marble staircase, with a decorative bronze rail, gives access to the stories above and below. On either side of the stairway are large, light courts which extend from the ground floor to the glass roof of the attic space, serving to light the interior rooms. The north doorway

(Continued on page 70.)



READING-ROOM.



CORRIDOR.

Clarence H. Johnston, Architect.

THE MINNESOTA HISTORICAL SOCIETY BUILDING, ST. PAUL, MINN.

opens into the main reading-room (101), a room depending largely upon carefully studied proportion and simple, unbroken wall spaces for its effectiveness. The monotony is relieved by bookshelves of oak which form a dado around the room, and by a splendid ceiling of decorative plaster, in which color is so disposed as to give beautiful play of light and shade. The delivery desk and ample card cases for the card catalogue of the library occupy the east end of the room, convenient to readers and having direct communication with the bookstacks. The room is furnished with carefully designed, harmonious furniture. Cork flooring minimizes the noise of moving occupants. Adjoining the main reading-room at the front of the building and accessible from it as well as from the corridor is the newspaper reading-room (102), which is connected by a stairway and an automatic booklift with the newspaper stacks directly below. The south pavilion, in which the auditorium was to have been located, as well as the Cedar Street front at the left of the entrance, including rooms 105-112 and 114, is, for the present, assigned to the executive offices of the State board of education.

On the second floor in the centre of the Cedar Street front is located the manuscript room (209). Adjacent to it is the superintendent's private office (208), which communicates directly with the general office (206). At the north end of the main corridor is a small waiting-room (204) for those wishing to transact business with the administrative officers of the society. Another office adjoining the general office on the north will be available for an assistant superintendent or librarian and adjacent to it on the north front is a small room (202) given over to the use of typists employed in cataloguing work. The cataloguing room (201) occupies the northeast corner. It has direct access to the stacks and is connected with the shipping and receiving room on the ground floor by an automatic electric booklift. By the same means new books, after being catalogued and classified, may be conveyed to the proper stack floor. The cataloguing-room is accessible from the main corridor through the waiting-room and is directly connected with the general office and typists room through a passage (203). The south pavilion and several rooms on the front, including rooms 211-217 and 219, are given over to various bureaus affiliated with the State department of education.

The third floor houses the extensive historical and archeological museums of the society together with its large collection of portraits and paintings. As much of this material is not suitable for permanent exhibition, large store-rooms are provided in which it can be so arranged as to be available for special exhibits and for examination at any time. The south museum room (308) will probably serve on occasion as an assembly-room also until such time as space may be available for the installation of an assembly-room on the main floor. The east room (314) will be used temporarily as a map room and a workroom for the classification of the State archives, these departments having been crowded out of the second floor by the inclusion of the department of education. The small electric elevator in the corridor (317) gives direct communication to the stack room below, in which the archives are to be stored. The small offices (312, 316) flanking this gallery will be available for members of the staff. The rooms on this floor are lighted by the immense skylight which forms the upper half of the roof. Ceiling lights of syenite glass, particularly designed to diffuse light, will eliminate all glare and shadow on the gallery walls. The artificial illumination of the galleries and museums merited careful study, and so cleverly has the architect solved this problem that the visitor to the gallery in late afternoon will be unaware of the transition from

natural to artificial light. Electric reflectors disposed in the attic space above the ceiling lights may be switched on in units as they are needed until full strength is reached.

The entire rear portion of the building is devoted to the main stack-room, a space eighty-two feet by twenty-nine feet and extending through four full stories from basement floor to second-story ceiling, a total height of sixty-two feet. This immense room encloses an eight-tier, enamelled steel, self-supporting bookstack which would hold, if the shelves were completely filled, 383,500 volumes. A part of this stack, however, will be used for the storage of archives. An automatic booklift stopping at each stack floor will minimize the labor incidental to the transfer of volumes from stacks to delivery desk, cataloguing-room, or shipping-room as the case may be. A small push-button elevator for the use of stack attendants and the library staff extends from the basement to the third floor, making the entire stack-room readily accessible from any floor of the building. At either end of each stack floor are small studies where the research student or others using the library for extensive study may withdraw from the confusion attendant upon the routine stack work. Several small table-tops hinged to the stack ends in the window bays on each stack floor form convenient spots for casual inspection of volumes.

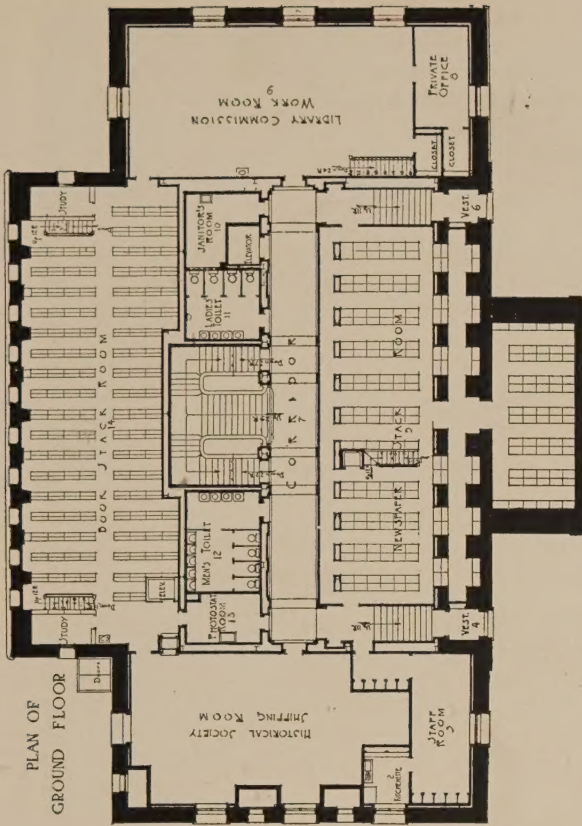
The newspaper stack (5) occupies the central portion of the Cedar Street front in the basement and ground floors. It is similar in construction to the main bookstack, is four tiers in height, and has a capacity of 16,500 bound newspaper volumes. It is directly accessible from the newspaper reading-room and from the basement and ground floor corridors.

The north pavilion of the ground floor is given over to the receiving and shipping room (1) of the historical society and a staff room (3) with kitchenette and locker rooms adjoining. In the south pavilion is the workroom (9) of the Minnesota Public Library Commission with a small private office (8) for the secretary of the commission. On the east side of the corridor immediately below the light courts are the public toilets (11, 12), a small room for the use of janitors (10), and the photostat room (13), where direct photographic reproductions of manuscripts, pictures, and even rare printed material may be made. The small entrances to the right and left of the steps leading to the main entrance will be largely used by regular habitués of the building, the elevator and main staircase being but a few steps distant from either entrance.

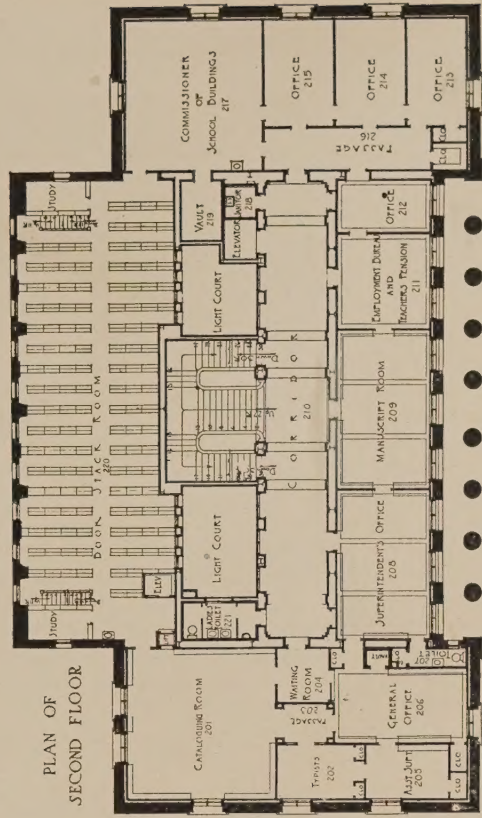
In the basement, immediately underneath the workroom of the library commission and connected with it by stairway, is the shipping-room of this department. A fortunate difference in the grades of Aurora Avenue and Central Boulevard enabled the architect so to design the service driveway in the rear of the building as to make the shipping-rooms of the historical society and the library commission, though located on different floors, readily accessible for incoming or outgoing packages.

The building is connected with the power plant of the Capitol by a concrete tunnel extending under Aurora Avenue, through which heat, light, and power are conducted to the mechanical equipment-room in the basement and thence distributed to the various parts of the structure. Six large fans furnish washed, fresh air to each room, being connected in such manner as to allow the various rooms to be heated to different temperatures as may be desired. The latest improvements in ingenious mechanical devices are provided for the convenience of the public and the staff. These include a complete system of private telephones affording communication between all departments of the society, automatic time clocks in the important rooms, and a powerful vacuum-cleaning plant to facilitate the work of the caretakers. The total cost of the work approximates \$500,000.

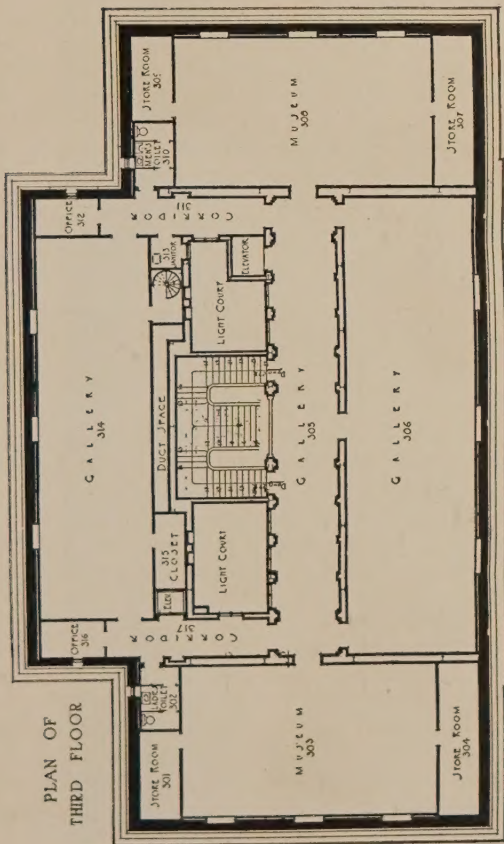
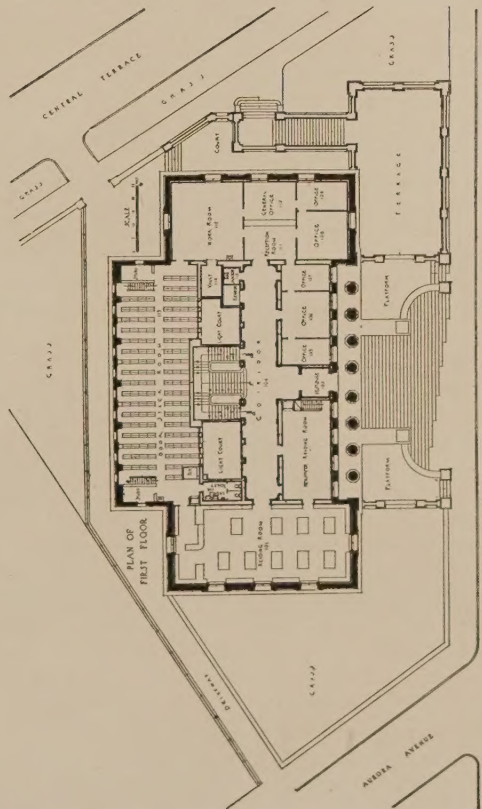
PLAN OF
GROUND FLOOR



PLAN OF
SECOND FLOOR



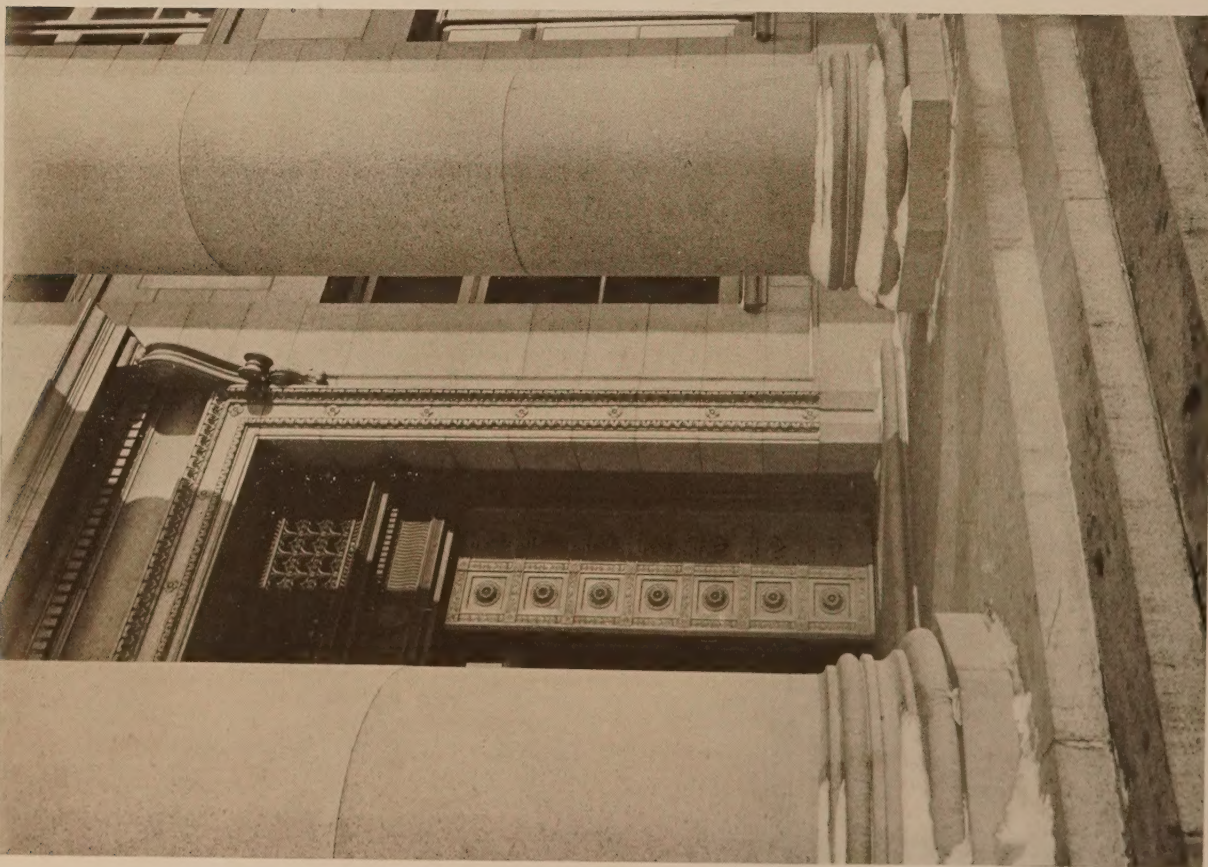
PLAN OF
THIRD FLOOR

PLAN OF
T FLOOR.

PLANS.

THE MINNESOTA HISTORICAL SOCIETY BUILDING, ST. PAUL, MINN.

Clarence H. Johnston, Architect.

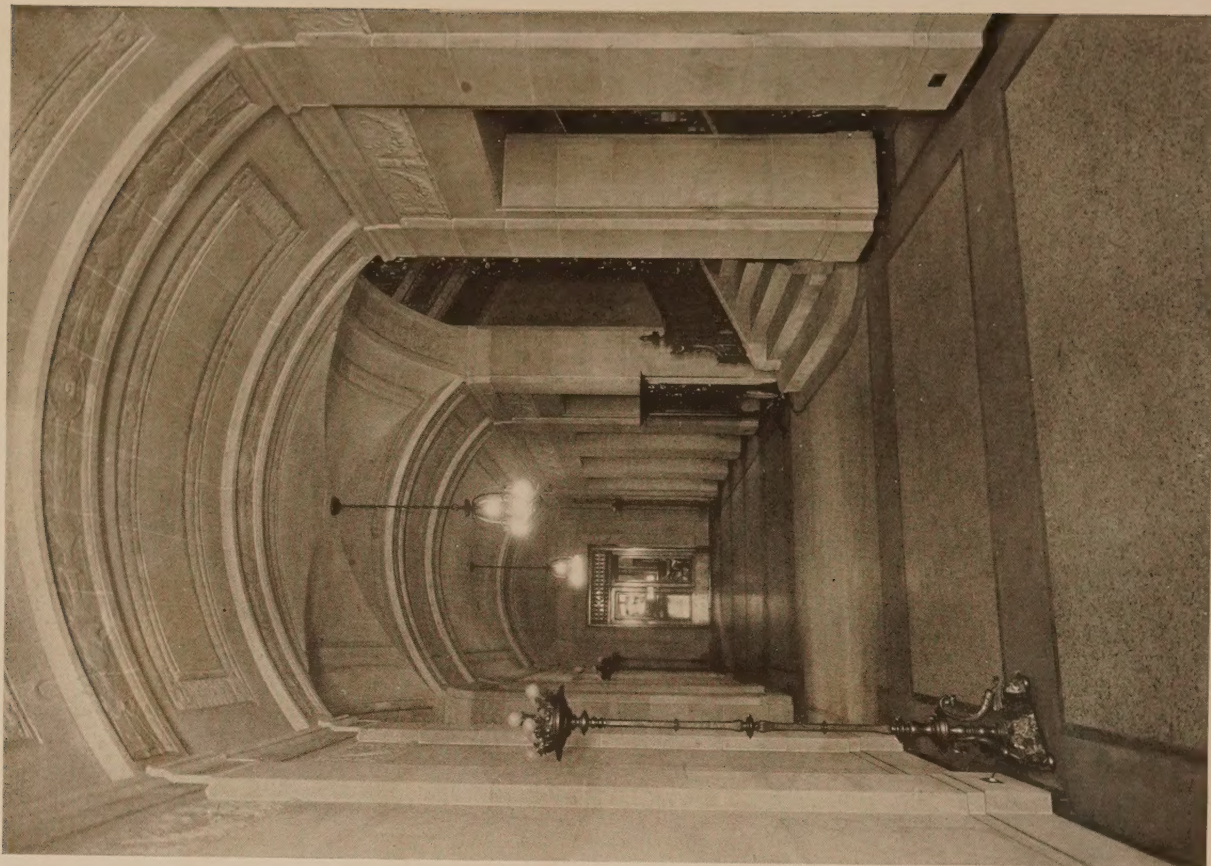


ENTRANCE.

THE MINNESOTA HISTORICAL SOCIETY BUILDING, ST. PAUL, MINN.

MAIN FLOOR CORRIDOR.

Clarence H. Johnston, Architect.



Editorial and Other Comment

Putting It Up to the Public

THERE are probably few ways of trying to arrive at any decision concerning art matters less fruitful than by a first appeal to the public. By this we don't mean to say that the public may not be a competent jury from the public point of view. Far be it. We only wish to point out the generally recognized fact that what is everybody's business is usually nobody's business. In art matters, at least, it does seem as if judgment should be based on some kind of standards. And by and large, the public standard is derived generally from some practitioner of the arts, or at least some patron, and in these days largely from the movies! The local sign-painter may be the country town's art critic, and, by the way, very often he has proved a mighty good one, for there are famous names in American art who painted signs and striped buggy-tops in their apprentice days. The chief trouble in the choice of the local memorial seems to come not so much from the lack of good intentions or from an altogether bad taste as from the multiplicity of bad ideas put before local committees with limited funds to spend in the form of stock monuments turned out by the hundreds.

In the recent "Exhibits in the Open Competition of Ideas for New York City's Permanent Memorial" there were many seekings for the big idea, some of them so big that they seemed preposterously disproportioned and out of key with the places they were to occupy. But on the whole the exhibit was worth while even if with comparatively few exceptions it failed to bring forth the ideas of a largely representative number of architects, sculptors, or others who occupy a leading place in the art world of the city. The net result is still to be defined, and we shall watch with particular interest the discussions that will follow and any indication of some real progress toward a dignified and worthy memorial.

We sincerely hope it will not be in the form of the "highest apartment-house in the world," even if there is in this towering idea something that touches intimately what seems to be the idea of the average New Yorker's notion of a home. There were a lot of other ideas that we hope will not materialize, for they savor too much of a selfish desire for merely local comfort and transportation, and too little of the thought of what the memorial should connote. We hope it will be something that will stir the emotions, something that will give us pause, make us stop and think of other things besides ourselves and the common-places and littlenesses of the average daily routine of the city man or woman. There is no evading the impression of solemnity created in visiting the tomb of Napoleon in Paris, nor standing with bared head in the place where our own Grant lies. There should be something of solemnity, of nobleness, something remindful of the dead, of their sacrifice, of the great debt to humanity they met and nobly paid.

The American Academy in Rome

THE American Academy in Rome has been established for twenty-five years, and those years have been fruitful years in the advancement of the highest ideals in the arts, in the study and advancement of the classic spirit.

France has her Ecole des Beaux-Arts, her *Prix de Rome*, to which no American student may aspire, and its fame is a part of the world's knowledge—a part of the world's record in the progress of the arts. The American Academy should have and will have a place as important in our national development. A fellowship of the Academy will be the equivalent of the *Prix de Rome*; it will signify to the world that the recipient has been chosen among many, that he represents the best talent of his country. The Academy, be it understood, is not "a school," as is the Beaux-Arts. "Its beneficiaries are those who have already advanced far beyond the preliminary stage of their various callings; frequently they may be those ready to embark, or who have embarked, upon their professional careers."

The winner of the American Academy's Prize of Rome, then, has the full equivalent of what France holds out to her most brilliant students of art—and not France only, but other European nations—Germany, Spain, Great Britain, and Russia.

What is the Academy doing? Here are some of the things it is doing:

"Nobody can fully realize who does not actually go among them—whoso does will have a veritable revelation. Not merely Fellowships, but fellowship; constant discussion and criticism of each other's different lines of work; talks about how to tackle the collaborative problems set for them; a painter illustrating his ideas by modelling a figure; architects, painters, sculptors, historians, and archaeologists going about together to see works of art. An architect designs and executes a fine decorative relief in color; a sculptor makes such drawings of the minute detail of classic ornament as the best architectural draftsman would be proud of; a painter discovers the wonderful picturesqueness and interest of ancient Cretan costume, and so goes to Crete, works as an archaeologist, makes all sorts of notes, collects all sorts of objects, and then embarks upon a huge mural figure-painting in which he brings back to life this extraordinary, newly discovered past. They go together to Greece and all over Italy—it is human and real and vital, and what is more, it is pregnant with possibilities for the development of beauty in American art, of capacity to handle in a masterly way the tremendous problems that this growing country has in store, beyond any present conception."

In this year marking its twenty-fifth anniversary the Academy is asking for funds to carry on the work it has been doing and to endow additional fellowships that will include landscape-architecture and music. The money will be forthcoming beyond a doubt.

Not Enough Copies to Go Around

IT is with both satisfaction and regret that we ask the indulgence of some of our readers who have been unable to get the extra copies of recent numbers for which they have asked. We endeavor to print enough copies to meet all current requirements, but, as ARCHITECTURE is a magazine with a special appeal and its circulation one that is more or less limited to regular subscribers, we are not always able to anticipate unexpected demands. We printed an un-

usually large edition of the January number and increased the printing order for February and we hope that we shall be able to fill all requests for extra copies of that and future issues. Our old subscribers will understand, we are sure, that with the increased cost of production these days we do not feel justified in making our editions larger than the immediate demand calls for and the necessity of meeting the needs of the increasingly large number of new subscribers.

The Art Students' League Scholarships

ASCHOLARSHIP competition open to all art students in the United States, with the exception of those in New York City, will be held at the Art Students' League of New York, on March 31, 1920.

Ten scholarships will be awarded to that work showing the greatest promise. Work in any medium, from life, the antique, portrait, etching, composition, also photographs of sculpture, may be submitted. Work should be sent flat, not rolled, and should be forwarded so as to reach the League not later than March 27, and must be sent with return express or parcel post charges prepaid.

The scholarships so given will entitle the holder to free tuition in any two classes of the League during the season of 1920-1921.

The jury will consist of the following instructors of the League: George B. Bridgman, Arthur Crisp, A. Stirling Calder, Frank Vincent Dumond, Sidney Dickinson, Thomas Fogarty, Frederic R. Gruger, Robert Henri, Hayley Lever, Kenneth H. Miler, Boardman Robinson, John Sloan, Eugene Speicher, Frank Van Sloun, Mahonri Young.

All students interested are cordially invited to enter this competition.

Address all letters and packages: For Scholarship Competition, Art Students' League of New York, 215 West 57th Street, New York City.

Rome's New Suburbs

AN interesting feature of the new building programme at Rome, according to the United States trade commissioner in that city, is provision for the immediate erection of two entirely new suburbs outside of the present city limits, and for these suburbs an attractive type of small cottage has been selected which resembles American or English design more than Italian.

One of the new "garden cities," as they are called, located east of Rome, will have sufficient houses to accommodate several thousand families. More than two thousand families, including many officials and employees of the State Railway Administration, have already made application for accommodations. Every effort will be made to render the new suburbs as attractive and complete as possible. Many thousands of shade trees will be planted, and schools, churches, and other public buildings will be erected immediately. Within the city limits an extensive building programme is being carried out, the housing problem in Rome having reached an acute stage some time ago and many thousands of people living in temporary and crowded quarters.

Government Needs Draftsmen, etc.

THE United States Civil Service Commission announces that the government is in need of a large number of draftsmen of various kinds. It is stated that fully 1,000 draftsmen were appointed in the government service during the last calendar year. During this period of reconstruction technical men are especially needed. Besides draftsmen there are openings for surveyors and computers, also

assistant and associate engineers, electrical, mechanical, civil, chemical, and ceramic.

Further information and application blanks may be obtained from the secretary of the U. S. Civil Service Board at Boston, New York, Philadelphia, Atlanta, Cincinnati, Chicago, St. Paul, St. Louis, New Orleans, Seattle, or San Francisco, or from the U. S. Civil Service Commission, Washington, D. C.

The Medal of Honor in Architecture

The Architectural League of New York has awarded the Medal of Honor for 1920 to the firm of Delano & Aldrich, for general work.

The work submitted to the jury included the residences of Mrs. Willard Straight, New York City, and James A. Burden, Syosset, Long Island.

ARCHITECTURE is pleased to present, in the plate section of this issue, a selection of photographs of these two residences.

Book Reviews

"THE COUNTRY LIFE, BOOK OF COTTAGES," new edition, by LAWRENCE WEAVER. Charles Scribner's Sons, New York.

Another very attractive volume by Lawrence Weaver, whose second series of "Small Country Houses of To-day" was noticed in the February number, is "The Country Life, Book of Cottages," new edition, a "review of what has been done to produce types of true cottages, excluding the country houses costing thousands which masquerade under the name of cottages." Only a few of these shown have more than eight rooms. They are essentially homes for people "of moderate means and refined taste, whose permanent home must be built with severe regard to economy." Full advantage has been taken in the building of these cottages of local material as well as a wide variety of the materials of familiar general use. Many of them are picturesque and charmingly adaptable to transplanting to an American environment. There are abundant illustrations that include floor plans and details regarding various materials.

"THE CHEAP COTTAGE AND SMALL HOUSE," by GORDON ALLEN. New and enlarged edition. Charles Scribner's Sons, New York.

By "cheapness is meant simple fitness, restraint, and perhaps efficiency, as contrasted with elaboration or unnecessary ornamentation." Mr. Allen's purpose is more to show the possibilities in the building of houses or groups of houses for the working classes and the middle classes and for the improvement of congested housing conditions that are so prevalent everywhere. Included in his discussion are such matters as "Site and Water-Supply," "Sanitary Matters and Lighting," "Materials." Among the many illustrations and plans we note those of "Cottages at Chapstow, Hampstead, Gordon Suburb, Crayford Garden Village, Houses at Gretna, Roe Green Garden Village, London County Council Cottages." Nowhere have problems of this kind been more skillfully handled than in England. This is a book based on practical service, and is full of valuable common sense suggestions that are often so notably uncommon in application. Plans and elevation are shown, and a number of plates giving the relation of buildings to particular sites.

COLOUR SCHEMES FOR THE FLOWER GARDEN, by GERTRUDE JEXYLL. Charles Scribner's Sons, New York.

The author's great book on "Garden Ornament" is known to all architects and landscape specialists as the most authoritative and complete work on the subject. In this new and revised edition of the present volume will be found practical suggestions for setting the garden palette, arranged with a consideration of seasonable succession of various plantings. The many charming illustrations from photographs of gardens together with the plot plans should make it a useful and suggestive book for the landscape architect especially.

PROGRESSIVE STEPS IN ARCHITECTURAL DRAWING, by GEORGE W. SEAMAN. ARCHITECTURAL DRAWING PLATES, by FRANKLIN GEORGE ELWOOD. The Manual Arts Press, Peoria, Ill.

Both of these books are addressed to and are for the student of architecture—and they should prove useful aids in helping the beginner to greater facility and a practical knowledge of methods in developing plans and elevations and various details, such as cornices, windows, mouldings, etc. The "Plates" present in compact form a collection of the common details or elements which compose a house.

PICTORIAL PHOTOGRAPHY IN AMERICA, 1920. Tennant and Ward, publishers.

A volume made up of pictorial prints from photographers in various parts of the country who have endeavored to render with the camera "personal impressions of nature or human life." It is the first attempt, according to Clarence H. White, president of the Pictorial Photographers of America, who writes the "Foreword" to give a comprehensive presentation of the status of pictorial photography as illustrated by the product of many of its best workers. The plates are charmingly printed and many of them show a sense of composition and the value of carefully studied light and shade.



STAIR HALL, RESIDENCE, MRS. WILLARD STRAIGHT, 1130 FIFTH AVENUE, NEW YORK.

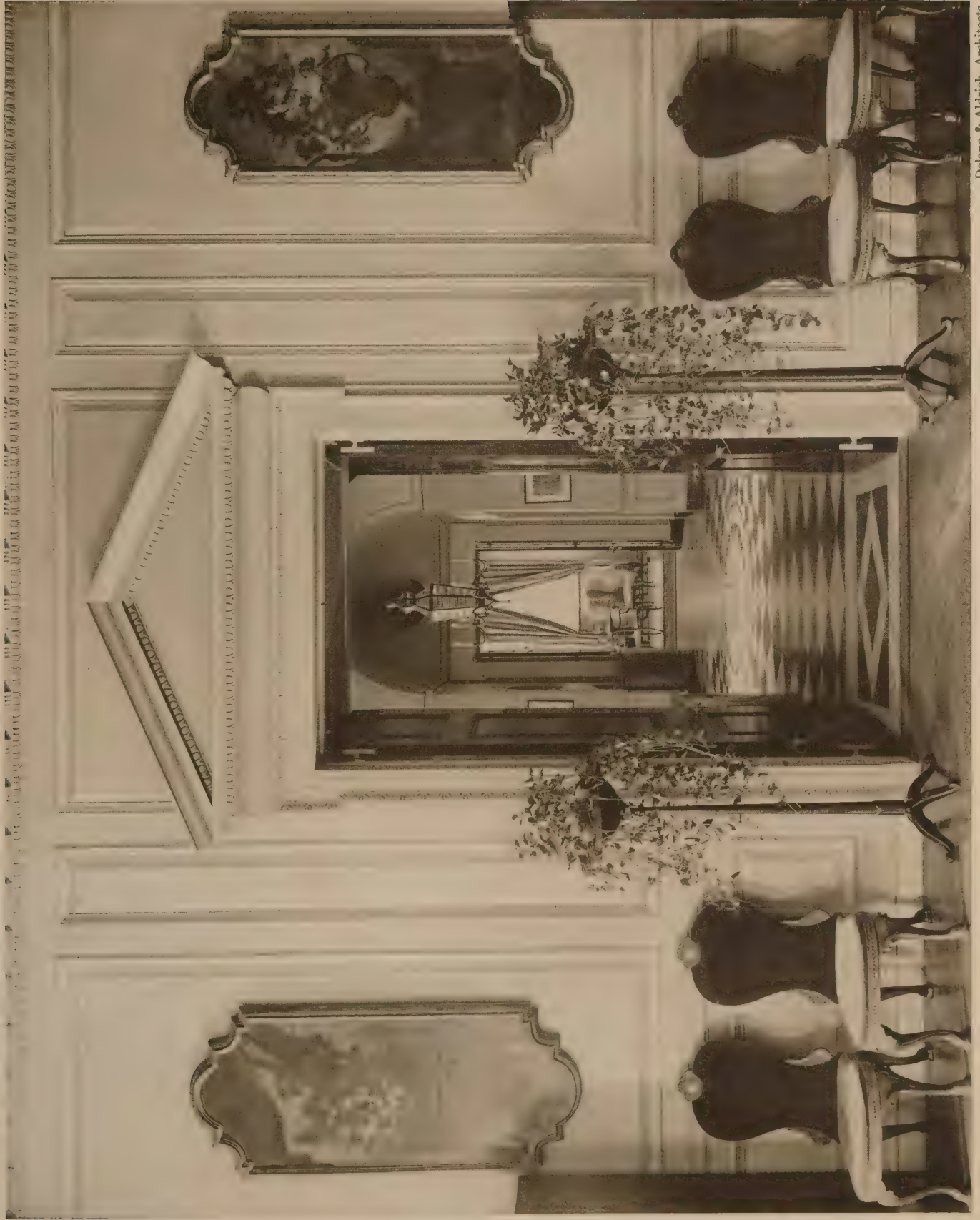
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MAIN HALL, FIRST FLOOR, LOOKING TOWARD DINING-ROOM.

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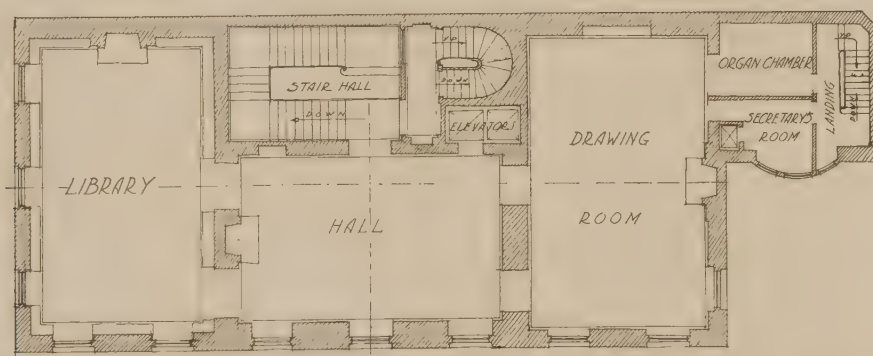


RECEPTION-ROOM, FIRST FLOOR.

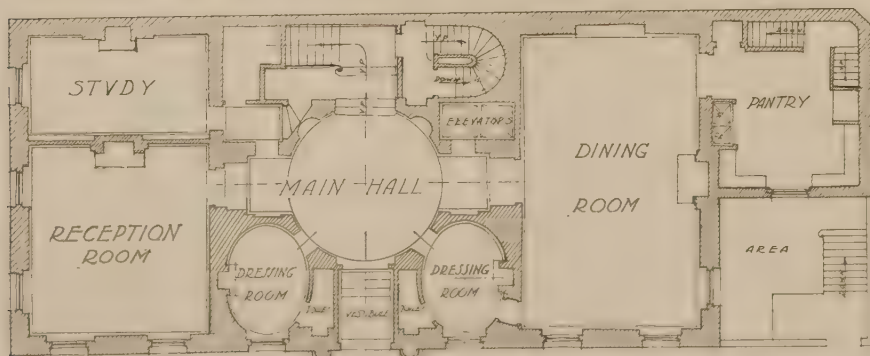
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EXTERIOR.



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GARDEN DOORWAY.

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HALL.



ARCADE IN CONNECTING WINGS.

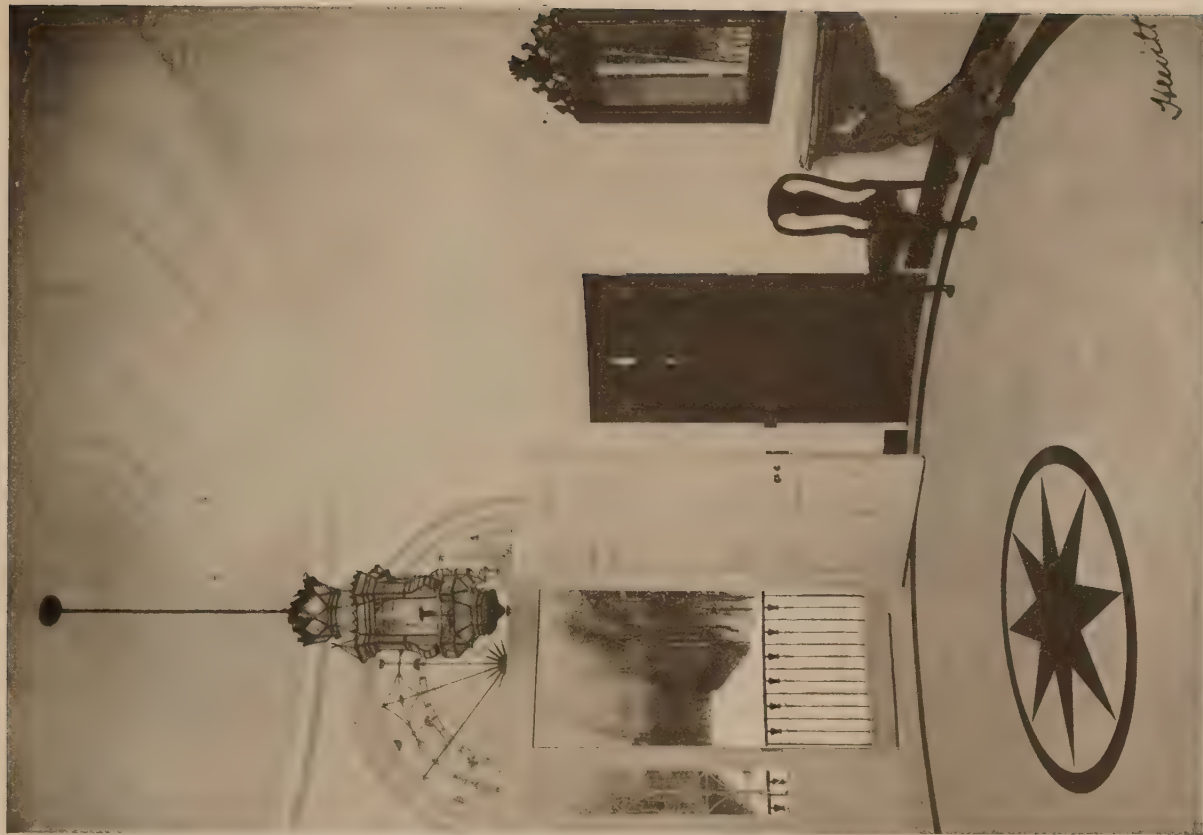
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BEDCHAMBER.

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THE MINNESOTA HISTORICAL SOCIETY BUILDING, ST. PAUL, MINN.

Clarence H. Johnston, Architect.

Romanesque Portals—Lombard and French

By C. R. Morey

THE earliest and by far the simplest account of the rise of the architecture we call Romanesque is that given by Raoul Glaber, writing in the eleventh century, who says that "about the third year after the year 1000 the holy churches were rebuilt from bottom to top in almost all the world, but especially in Italy and France." Romanesque churches were not all built "about the third year" after the millennium, but that date may serve as a *terminus a quo* for the new style of architecture, and for the extraordinary religious movement that inspired it. Due partly to the spread of the reformed Benedictine orders of Cluny and Cîteaux, and in part to the springs of piety loosened at the approach of the millennium, at which time the peoples of mediæval Europe very generally expected the second coming of Christ and the end of the world, this spiritual renaissance found final expression in the twelfth century on the one hand in the Crusades, and on the other in the plastic decoration of the capitals and portals of the new churches, reviving the art of monumental sculpture in stone which had been dead for eight hundred years.

The new sculpture is quaint and bizarre, but by no means embryonic. Its beginnings are evidently already far behind it; with all its crudities there is mingled a curious authority and power. What is the secret of this fresh maturity? Where lies concealed the long artistic evolution that it presupposes? Why is it that in the very act of laughing at its absurdities we feel ourselves gripped by the realities of mediæval faith, the terror of its hell, and the ecstasy of its heaven?

Some answer may be found for these questions if we keep in mind the antithesis between what mediæval artists thought on the one hand, and their mode of expression on the other, and if we learn how in the course of time the expression, at first controlled by the thought, became more and more powerful and original until in some phases of Romanesque sculpture it gets

out of hand entirely, and the thought is swamped in a burst of mediæval feeling.

It is in the Romanesque period, in fact, that the Middle Ages first began to express itself. For centuries before this, it had expressed not itself, but antiquity. The barbarians—Goths, Lombards, Franks, and Saxons—who broke up the Roman Empire and founded the nations of mediæval Europe, became the humble pupils of the civilization which they had overthrown. They took their religion from Rome, and became converts to the Christianity which had finally prevailed throughout the Empire a century before its fall. In Rome they saw the symbol of order and reason, two qualities sadly lacking in the chaos succeeding the barbarian conquest, and the efforts which the new peoples made thereafter to stabilize the polity and thought of Europe always took the form of renewed imitation of Old Rome—*Rome la Grande*, the troubadours called it—such as the Holy Roman Empire, or the temporal supremacy of the Popes who had in the mediæval imagination succeeded to the throne of the Cæsars.

Thus the thought of the Middle Ages was not of its own thinking. When the mediæval man thought at all he thought theology, and mediæval theology up to the middle of the twelfth century, was the creation of the Latin fathers—Augustine, Ambrose, Jerome, and Gregory the Great—excerpted, annotated, rearranged, but with scarcely a jot or tittle of added original thinking during the course of five hundred years.

Now the Latin fathers, like ancient writers in general, appealed to the mind rather than to the heart, and handed on to the Middle Ages a religion that was more dogma than faith, and symbolic rather than concrete. Early, or Latin, Christianity produced many theologians but few poets. The final product of a highly intellectual civilization, Latin Christianity furnished a striking contrast to the natural concepts of new peoples, whose ideas were literal rather than



Ivory plaque. Berlin Museum.

abstract, and whose reactions involved the emotions rather than the mind.

The reader will no doubt welcome a concrete illustration in the midst of so much generalizing. In the Berlin Museum is an ivory plaque, carved about 400, and representing the final stage of classic style, which once formed part of a larger plaque, probably a book-cover. This original plaque was copied about 800 by a Carolingian artist, and the copy is preserved to us in the book-cover in the Bodleian Library at Oxford. The late classic ivory has still the intellectual quality of antique style; the action is clear, the figures self-poised and impersonal, with an air of dignity pervading the whole. In the copy on the other hand the figures lack dignity and poise, and can neither sit nor stand in a convincing manner. They are also too much alike to reveal the relative importance and the function of each. In short the copy is confused and unprecise; it reproduces faithfully the antique conceptions but fails to get the antique style, relapsing instead into vagueness.

Yet this very lack of definition has a suggestion of *feeling* about it, and here we touch upon the discrepancy already noted between the antique thought or content of mediæval art, and the expression thereof. There is already faintly visible in the Bodleian plaque the characteristic mediæval tendency to emotionalize the ideas handed down from antiquity, to poetize the dogmas and symbols of the fathers, to sing hymns where they had chanted creeds. Hence even in the Carolingian period we can see the conflict beginning between idea and expression, and already in the ninth century there is a general twofold division observable in the works of art, according as the style controls the content, or the content controls the style.

In the pen-drawings of the Utrecht Psalter, to take an extreme example, the style has run away with the subject. These pages are swept by veritable hurricanes of emotion; the figures pirouette and draperies swirl in violent reaction to the mystic phrases of the Psalms. The draftsman displays also a quaint literalness which is indispensable to such lyric expression; consider, for example, his illustration of

"Awake, why sleepest Thou, O Lord," with the Lord in bed, while angels strive to rouse Him!

Other manuscripts of the Carolingian period will, on the other hand, retain a classicism that is almost Roman in its sobriety, and after the final division of Charlemagne's empire at the end of the ninth century, when France was

detached and Italy and Germany together became the patrimony of the East-Frankish or German Emperors, these two extremes of mediæval style become localized in East and West, the lyric mode prevailing in France and England, while the classic manner obtained in Germany, and finally, as we shall see, made its way into the Romanesque sculpture of the North Italian Lombard school. It, too, betrays the working of the mediæval leaven, gathering all the while a crude realism that gives concrete, if sometimes comic, force to its rendition of the sacred subjects, but holding true in the main to classic sobriety and avoidance of movement.

This style, preserved in the works of the Rhenish illuminators of the tenth and eleventh centuries, emerges in North Italy at the time of the revival of sculpture, initiating what we call the Lombard Romanesque. In the reliefs which Guglielmus, the earliest of these Lombard sculptors, carved upon the façade of Modena cathedral about 1100, we find the same wavy-haired, bearded heads, the same flapper feet, the same halting action which marked the figures in the German manuscripts.

Guglielmus's style is crude, his faces have lost classic proportion, and his figures have no beauty; they are rather realizations of a barbaric ideal of force, and a racial type is seen in the bulging eyes and high cheek bones. But there is still in his work a classic restraint that bespeaks its distant origin, and gives his scenes a curious effect of power.

The same latent power informs the sculpture of the second school of Lombards, presided over by Benedetto Antellami in the second half of the twelfth century. Here we find greater refinement and a heightened sense of beauty which we may attribute to the influence of France, the more so because the subjects are conceived in a French manner.



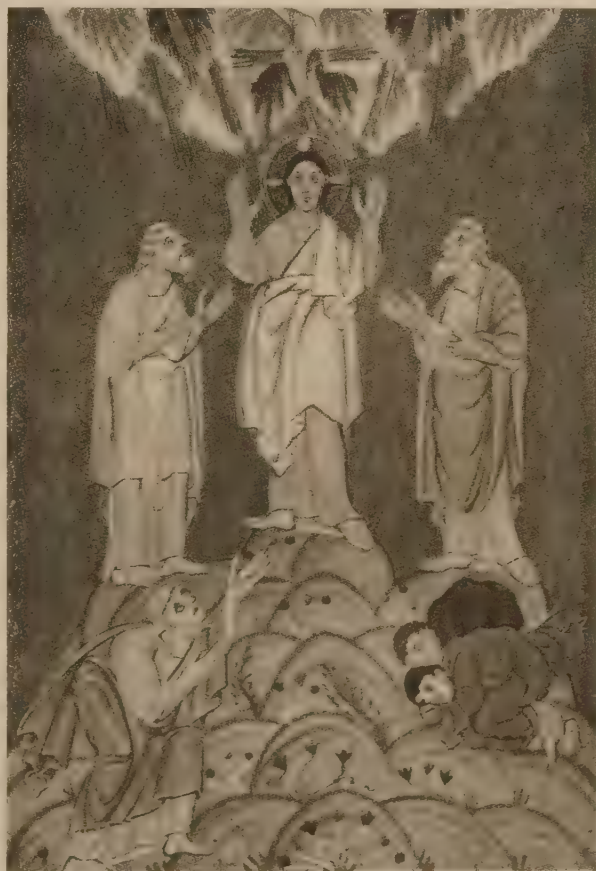
Ivory book-cover. Bodleian library, Oxford.



Illustrative drawing. Psalter in University library, Utrecht.

In Benedetto's Descent from the Cross, for example, he introduces into what would otherwise be a Byzantine composition, the novel French motif of the Church which catches the blood of Christ in her chalice, while to the right an angel pushes off the crown of the defeated Synagogue. The particular French source from which Benedetto drew is revealed by details like the "smocking" on the sleeves of the soldiers to the right of the Cross, and the very weedy acanthus scroll which forms the upper border of the panel. These features, at the time when Benedetto carved his Descent from the Cross (the last quarter of the twelfth century), were to be found together in only one school of French Romanesque, namely Provence, the old Roman Provincia, whose capital was Arles. This, the part of France nearest to Lombardy, was a very natural source for the French influence on Antellami and his school.

A late but characteristic portal of this school of Provence is that of Saint-Trophime at Arles, familiar to Bostonians as the model of the façade of Trinity Church, at Copley Square. Here one can see the two motifs borrowed in Antellami's work, the "smocking" above the elbow of the sleeve, and the weedy acanthus with which the carvers strove to imitate the late Roman decoration which they saw about them on the ancient monuments in which Provence is so rich. They never tired of Roman ornament, using classic mouldings, modillions to support their cornices, and entablatures *en ressaute* with columns engaged, above which one sees the characteristic Roman running frieze. At Saint-Trophime this frieze represents on the left the Elect going to Heaven, and on the right the Damned, marching away like a chain-gang to Hell. Christ sits enthroned in the tympanum,

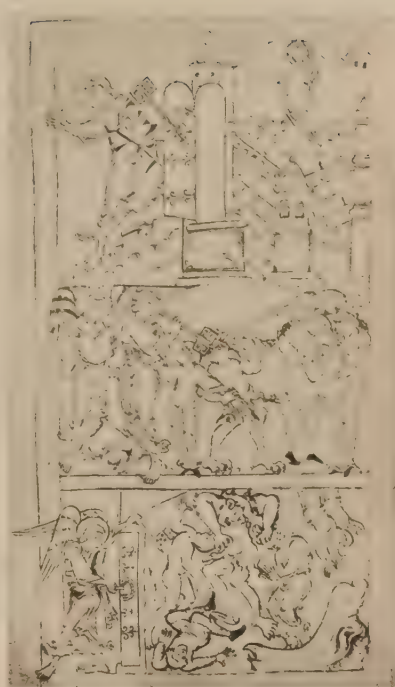


Transfiguration. Rhenish manuscript of c. 1000.

surrounded by the four beasts symbolic of the Evangelists, and below Him on the lintel are the twelve apostles. The animals that serve as pedestals are a well-known Lombard device, which shows that the masters of Provence received as well as gave in their relations to Italy, and it is probably best to consider the sculpture of Saint-Trophime and the works of the Antellami school as belonging to a single group. Dating in the last quarter of the twelfth century, these grim and heavy figures represent a belated phase of the plastic style, if we may give that name to the classic manner whose vicissitudes we have been tracing. Plastic it is in any case, for the values obtained by these masters are all of form rather than line; movement is avoided to gain instead a rugged force.

More interesting is the history of the lyric style, with which we became acquainted in the drawings of the Utrecht Psalter. The field of its development was the West, meaning by that the territory lying in general west of a line drawn through the Meuse, the Saône and the Rhone. Here again the evolution must be traced in the illuminated manuscripts, the chief medium of early mediæval art. Thus we find it in French illumination of the tenth and eleventh centuries, but reaching its fullest development in the English drawing of the eleventh, of which a good example may be found in the Liber Vitæ written at Winchester. Nothing could be more spirited than this rendering of Saint Peter at the gates of Heaven, or of the same saint saving a soul from the devil, whose face he smashes with an enormous key, or again the angel that locks the gates of Hell.

In the early twelfth cen-



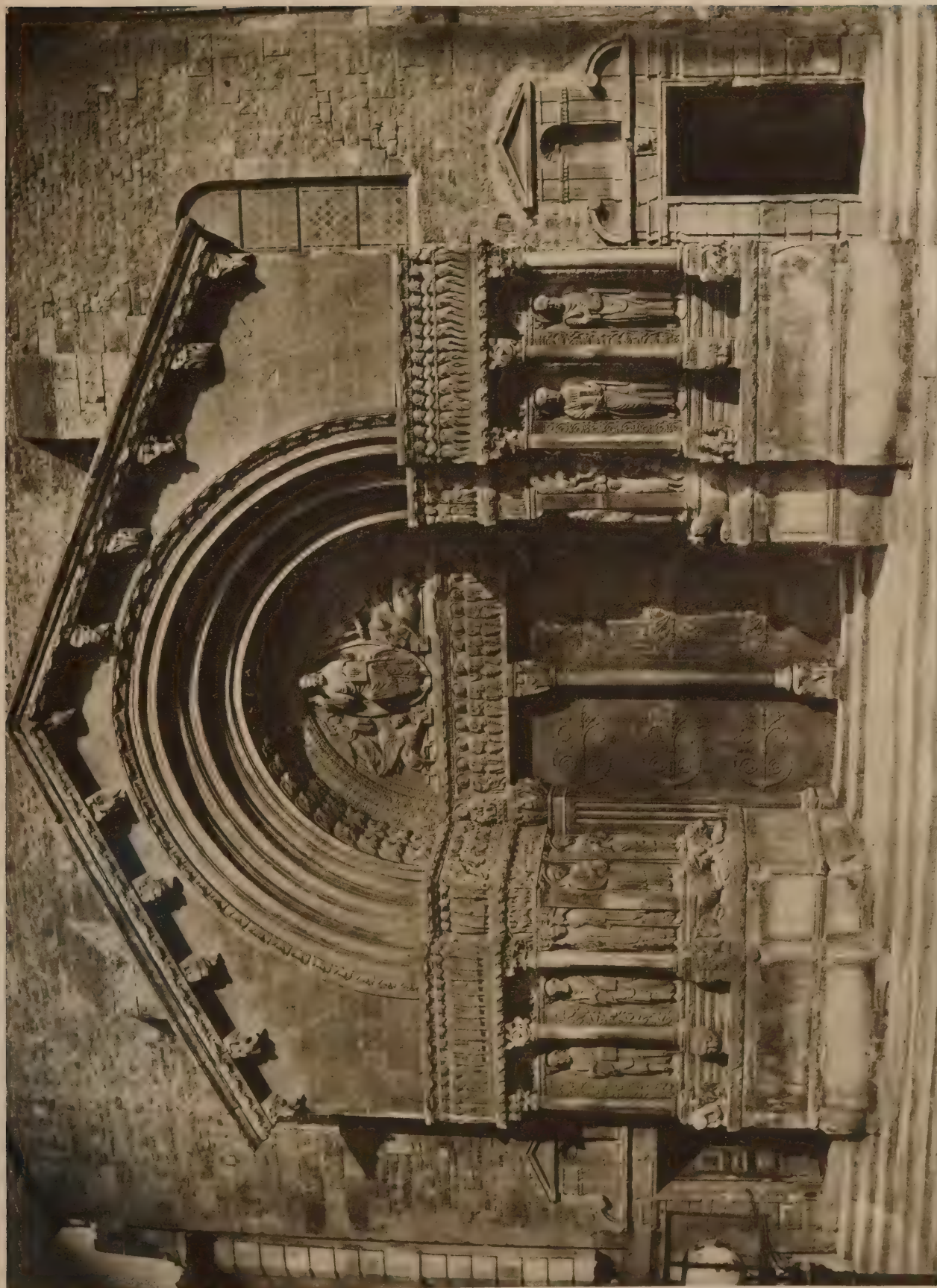
Illustrative drawing. Liber vitæ.



(Ed. Alinari) P. L. N.° 15654. MODENA - Facciata della Cattedrale. Bassorilievo sopra la Porta a destra con fatti del Vecchio e Nuovo Testamento. (Niccolò e Guglielmo, 1099.)
 DEATH OF CAIN AND NOAH'S ARK. RELIEFS ON MODENA CATHEDRAL, BY GUGLIELMUS.



DESCENT FROM THE CROSS. RELIEF BY BENEDETTO ANTELLAMI, PARMA.



SAINT-TROPHIME, ARLES. ENSEMBLE OF FACADE.

tury the style suddenly emerges in the stone sculpture of Languedoc and Burgundy. There can be no doubt that the sculptors drew from the manuscripts when one compares the pirouetting prophets of Languedoc with such figures as the angel locking the gates of Hell in the English miniature. The resemblance is not one merely of posture and clinging drapery; the sculptor paints as he carves, seeks values of line rather than of mass, and even reproduces the technique of the painter's light and shade in the nervous flying edges of his drapery.



Figure of prophet. Souillac.

The masterpiece of the school of Languedoc is the portal of the abbey-church of Moissac. Of this the portal proper dates about 1130, and the sculptures of the sides are later, done between 1130 and 1160. We thus have a work of an earlier generation than the façade of Saint-Trophime, and one notes also the utterly different conception of ornament, the classic motifs of Provence being here replaced by decoration imitating the stucco relief of Moorish Spain. In the tympanum is the vision of the Apocalypse, with Christ in glory attended by two angels and the four Evangelistic

beasts. Below and at the sides sit the four-and-twenty Elders, their heads at times nearly twisted off in the sculptor's effort to centre the interest on the figure of Christ. The sides of the portal are restored in one compartment (the Annunciation), but altogether their sculptures illustrate very well the submergence of traditional symbolism in a riot of emotional expression.

The lower right hand panel on the left side is an allegory of the sin of Unchastity (Luxury was the mediæval term), and the rest of the arcade is devoted to an exposition of Avarice. It must not be forgotten that Romanesque is a monastic art, which explains the constant singling out by the sculptors of these two themes for their graphic inductives in stone,—the brethren of the monastery must be reminded of the most deadly of the temptations which surrounded them, and in the laity must be stimulated the habit of cheerful giving to Mother Church.

So the miser sits in a chair, clutching his bag of gold and tortured by the demon that sits astride his neck, while another grinning demon urges forward a beggar. The mendicant's shrinking attitude foretells the refusal of alms, whereby the miser is enticed into deeper sin. In the upper lunette to the right we behold the miser's death chamber. His wife kneels weeping beside the bed; from his mouth a demon wrenches the manikin that represents his soul, another devil flies off with a bag of gold, and the good angel hovering above is about to turn away in disappointment. The lunette to the left is badly damaged; it represented the tortures of the unchaste and the avaricious.

The grotesque horror of these scenes is carried into the heads that ornament the angles of the arches—a grinning

hag, a beast crunching a human form in its jaws, and a repulsive head with a goitre on its neck. In the frieze above further point is given to the moral of generous giving by the story of Dives and Lazarus. To the right the rich man is feasting, with Lazarus the beggar lying outside his door. The dogs are licking his sores with a realism that would be disgusting were it not so comic, and above him bends the angel that is to carry his soul to Heaven. Heaven is symbolized in Early Christian fashion by a tree, and to the left sits Father Abraham with Lazarus in his bosom, attended by a prophet who points with an unmistakable air of "I-told-you-so" to some apposite Scriptural text that once was painted on his scroll.

On the right side the panels begin with the restored Annunciation in the lower left hand corner, followed by the Visitation to the right. Over-emphasis explains the oddity of all these scenes; the prospective mothers of the Visitation betray their emotion by contortion of body and gesture, and the Wise Men in the Epiphany above hurry forward at breakneck speed to the eager Virgin and Child. In the frieze above is the Presentation, grotesque in its lyric rendering of what is essentially a solemn scene, and next to it an incident of the Flight into Egypt, drawn from the Apocryphal Gospels, which relate how the idols of the city of Heliopolis fell down at the approach of the Holy Family.

The portal of Moissac, with a change of subject to the Last Judgment, was copied at Beaulieu, which belongs architecturally to the school of Auvergne. In fact the style of Languedoc spread far beyond the borders of Languedoc proper; we find it as far north as Poitiers, in the figures on the façade of Notre-Dame-la-Grande; there are reminiscences of the style even in the sculpture of the west façade of Chartres; and a very pronounced Languedoc influence is to be seen in some of the work on a church that is essentially a product of the school of Provence, namely Saint-Gilles on the Rhone, just across from Arles. Here amid all the features characteristic of Provence, and reminding us so strongly of Saint-Trophime, we discover the heavy Lombard figures pirouetting and twisting like the saints of Moissac. A similar mixture of the two styles may be found in the capitals from Saint-Guilhem-du-Désert, which New Yorkers may examine in Mr. George Gray Barnard's museum in the Bronx.

The style of Languedoc was thus the dominating element in the Romanesque of Southern France, save where the Lombard plastic manner had established itself in Provence. There were other local schools, such as that of Auvergne, with its peculiar five-sided lintel, and the "school" of Saintonge-Poitou, chiefly remarkable in its preference for an arcuated portal that omits the tympanum. But throughout southwestern France one finds as the twelfth century wears on a gradual adoption of the lyric style of Languedoc, while toward the north and east, with occasional echoes even in southern portals near the century's end, the sculpture reveals the more robust genius of Ile-de-France and Burgundy.

The Burgundian style has a very interesting early history, but we can here only look at it in its developed phase, which first appears at Vézelay. This is a most interesting abbey, formerly one of the richest foundations of the kingdom, and sought by pilgrims from far and wide. Founded about 860, it was only in the eleventh century that it emerged from obscurity by the fortunate chance of having secured some reputed bones of Saint Mary Magdalene. So popular did this relic make the abbey that it was chosen by Saint Bernard in 1147 as the spot where he would preach the second crusade. The portals of the church are modern,



MOISSAC, ABBEY CHURCH, PORTAL (FROM CAST).



SIDES OF PORTAL (FROM CAST).

MOISSAC, ABBEY CHURCH.

and the chief interest for us in the abbey lies in the doorway of the narthex or porch, which was finished some ten or twelve years after Saint Bernard's preaching.

No example illustrates better than Vézelay the obscurity in which the emotional style enwraps the subject, for archæologists are still at odds as to the interpretation of this famous portal. The tympanum surely represents the Sending forth of the Apostles, for this is clearly indicated by the rays of the Holy Ghost that radiate from Christ's hands to their heads. The little compartments of the archivolt are also usually interpreted in the same sense as highly imaginative renderings of the various peoples to whom the Gospel was preached. The lintel is the greatest puzzle, and we can probably do no better than to suppose, with Viollet-le-Duc, that it represents in some way the separation of the Elect from the Wicked, the good souls being shown in characteristic fashion as bringing offerings to the abbey, while the Damned are conceived in allegories—Pride mounting a horse (by means of a ladder), Discord as a pair of fighters, Anger as a quarrelling family, Calumny figured in the curious group of people with enormous ears at the extreme right of the frieze.

The style of Vézelay is very close to the manuscript illumination from which it was derived, and far more so than that of Moissac. For here the drapery is done in fine lines and swirls that suggest the penman, and the sculptor takes infinite pains to get the pictorial effects of the manuscripts, as for example in the elaborate undercutting of the characteristic Burgundian double fold. He handles his stone as if it were so much black and white, with utter disregard for his material, a keen sense of the emotional value of coiling lines, and no plastic sense whatever.

The same style appears with some restraint of movement and greater exaggeration of the slim figures in the portal of the cathedral of Autun, which dates about 1140. The portal is the victim of a "restoration" of the eighteenth century, when many of the heads (notably that of Christ) were cut off so that the "barbaric" sculpture of the tympanum might be covered by an æsthetic coat of plaster, but enough is left to make the scene, for all its impossibilities, perhaps the most convincing rendering of the Last Judgment that we have in art. The sculptor has signed the work—his name was Gislibertus—and he intended to leave no doubt as to the didactic rather than æsthetic intent of his creation, for under the group of the Damned he has inscribed a Latin couplet, reading: "Let this terror terrify whoever is bound in terrestrial error, for the horror here depicted is sure witness of what shall come to pass."

Christ sits enthroned in a glory supported by four angels, of whom two are represented head downward in an effort on the part of the sculptor to give the glory a floating effect—an effect neutralized by the lower pair, who stand solidly on the ground. On the ledge beside Him sit on one side a prophet, and on the other Mary and Saint John, intercessors for the Damned. At Christ's right is the City of Heaven, with all the walls and arcades of a Romanesque town, into which an angel is "boosting" a soul through the arches of the lower story. The entry of souls into Heaven

is superintended by Saint Peter, who holds an enormous key, while Saint Paul further to the right leads a throng of worshipping saints. In the lower left hand corner an angel sounds a trumpet, with tremendous effect upon the soul that cowers behind him, and another in front, who points with excited gesture at the Heavenly City. Another soul clings to the angel that is affording, in so simple and direct a fashion, the coveted entry to Heaven; and Saint Peter grasps the hand of yet another, who seems to be waiting his turn. All the souls are sexless creatures, and height is a matter of relative importance, humanity measuring half the stature of the saints, and these half that of Christ.

To the right is the Psychostasis, the Weighing of the Soul. We see an angel holding an open book, and the scales, on the beam of which is perched the soul, evidently in an agony of uncertainty as to the outcome, while in the pans below his good and evil deeds are being weighed by a devil and

an angel. The good seems to triumph in spite of the efforts of the devil to pull down his side of the beam. Little spirits cower about the angel's feet; to the right a grinning fiend clutches a toad as he watches the weighing; another above him thrusts the Damned into the Pit of Hell, and from the open gate below emerges the fish-like head of a monster that vomits forth another devil, grasping in his claws a group of shuddering sinners. A trumpeting angel completes the composition.

The lintel shows us both the Resurrection of the Dead and the Separation of the Elect from the Damned. An angel on the left comforts the holy ones; another in the centre drives away the Damned with a sword. Among the Blest are two bishops and two pilgrims, with their scrips, a monastic touch in contrast to the more popular view represented by Gothic Last Judgments, wherein the abbots and bishops frequently appear among the Damned.

Ut terreat hic terror. The sculptor carved this motto on his work, and certainly departed not from it. Save for the obscure figures of the intercessors, Mary and John, there



Vézelay, abbey church, portal (from east).



Autun, cathedral, portal (from cast).

is scarcely a note of pity in the whole composition. Infernal hands grope for the resurrected dead, and even the Blest are shaken by the catastrophe, displaying none of that smiling complacency that marks their demeanor in the Gothic Judgments of the thirteenth century. The *Dies Iræ* of Autun is grim and terrible, a terrifying picture of eternal torment that might have embroidered the Lenten sermon of some monastic preacher.

Jesus' description of the Last Day was symbolic, a parable, and so the scene was understood throughout the course of Early Christian art. Here we see the antique conception overborne by the rising tide of barbarian emotion; the vivid horror that possessed the sculptor's mind could brook no symbolism. Concrete fact alone might serve his theme, and out of this he has constructed a vision whose sheer sincerity convinces, transcending the inadequate technique. The symbolic tradition of Christian art here breaks down; the mediæval soul found no outlet for its emotion in a parable, and must needs translate the age-old types into terms of humanity.

The process of humanizing the antique content of Christianity, initiated by such works as the Last Judgment of

Autun, was carried on by the last to appear of the Romanesque schools, and the most thoughtful of them all. We have seen the work of the South and East of France; the North was slow to take up the revival, but when its contribution

appeared it was nothing less than a new art, the first stage of Gothic. The builders of the twelfth century in Ile-de-France and Normandy were not satisfied with a mere remodelling of the Latin basilica, as were those of Languedoc and Burgundy; they evolved a system of building that was not only different in structural principle, but served a new æsthetic purpose. So also in the sculpture adorning these proto-Gothic cathedrals, the synthesis between mediæval content and expression was worked out to ultimate harmony, in that the content



Chartres, cathedral, details of west front.

became more human, and the style more universal.

The Romanesque of Ile-de-France is really Gothic, and we have space for but one example, the west front of Chartres cathedral, whose sculptures date from about 1150. It is easy to see even in the general view of the façade the fundamental break from Romanesque; the figures are no longer appliqué upon the building, but have become an integral



CHARTRES. ENSEMBLE OF WEST FRONT.

part of the construction. Their close adherence to the lines of the cathedral lends them some of its sovereign dignity, and yet how much more winning are their faces than the savage masks of the saints and prophets of Languedoc! The art of the Middle Ages has suddenly, as it were, grown young; the angels invest the forms of childhood. Young also and intensely human is the Christ that sits in the central tympanum surrounded by His ancient symbols; the

significance of the figure is found no longer in them, but comes rather from the kindly gaze that illumines the face, transforming the Judge into the Saviour of Mankind. Thus mediæval sentiment has at last come into its own; the Latin dogma that it tried to animate with pathetic exaggeration is now couched in unmistakable French. On the Christ of Chartres there falls the first sunlight of the Gothic dawn.

Princeton University.

The American Academy in Rome—Twenty-fifth Anniversary

THE history of the first twenty-five years of the life of the American Academy in Rome, a most interesting summary of which has been written by the secretary, C. Grant La Farge, is a complete justification of the vision of its founders.

"The building of the World's Fair at Chicago made a turning-point in our artistic progress so marked that it may well be termed an epoch. Its effect was profound and far-reaching, strongly influencing our subsequent work and point of view. It was the first occasion upon which there were brought together, to work for a common result, not only a number of architects, but also the practitioners of the allied arts. The lessons learned were important: the inestimable value of coherence and classic orderliness; the individual freedom given to those who accept a common restraint; greatest of all, perhaps, the meaning of *collaboration*: that the architect, the painter, the sculptor, if each is to reach his highest expression, must work all together, mind to mind and hand to hand, not as separate units fortuitously assembled, but as an intimately interwoven and mutually comprehending team—as men worked in every great age of the past to make great works of art. Perhaps the full lesson was not entirely grasped, perhaps it was too vast for immediate complete realization; but at any rate it bore some fruit promptly, and the American School of Architecture in Rome was opened in 1894. It was in the fertile brain of that most distinguished ornament of American architecture, Charles F. McKim, that the idea was born; under his fervor and enthusiasm, together with that of Daniel Burnham, that it took shape; to their unswerving devotion to this idea, their gifts to it of money and time; to their inspiring example; to the years of Frank Millet's unselfish service, ending only with his tragic death in that very service; and to the adherence of such others as La Farge and Saint-Gaudens, now gone, Mowbray, French, and Blashfield, happily still with us, that this fruition was due. Begun by two such princes of architecture as McKim and Burnham, it naturally took at first an architectural form, but the rest soon followed. In 1897 the scope was enlarged by the founding of the American Academy in Rome, for students of architecture, painting, and sculpture."

The men this institution has already sent forth, and their influence in establishing high standards and in moulding thought, both in the arts of architecture, painting, and

sculpture, and in classical literature and archæology, have demonstrated its paramount importance to higher education in America.

NEW DEPARTMENTS.—The success already achieved warrants the trustees in extending the field of its activities to include the arts of musical composition and landscape architecture and in opening its doors to the women as well as the men of America.

In order to maintain the academy in its present state, and in order to insure its growth in these directions, additional endowment is necessary.

France owes her pre-eminence in arts and letters to-day to the establishment of the French Academy in Rome over two hundred years ago. Spain, England, Belgium, Austria, Germany, and Russia have followed her example.

The trustees of the American Academy turn confidently to the men and women of America, in the belief that their support of this great national and patriotic institution will not fail.

FUNDS.—Funds for the expenses of this campaign for the endowment of the American Academy in Rome have been subscribed by friends of the academy, so that every dollar received will go to the endowment fund.

The academy was in debt to the Morgan estate, \$375,000. Mr. J. P. Morgan has made an offer to cancel a dollar of this debt for every dollar subscribed to the endowment up to that amount; thus every contribution will be doubled by Mr. Morgan's munificent offer.

Many universities are already contributing colleges. There should be many more to avail themselves of the privileges which such annual subscriptions give. And those privileges may be retained in perpetuity by any university which shall capitalize its subscription by making a contribution of five thousand dollars to the endowment of the academy.

Liberty Bonds will be gladly received at their face value.

Contributions to the academy may be deducted from income on tax returns.

All contributions should be made to the order of and mailed to

EDWARD P. MELLON,
Treasurer of Endowment Committee,
52 Vanderbilt Ave., New York City.



The Problem of the Small City Lot

By William Pitkin, Jr., Landscape Architect

THE development of the city lot having a frontage of approximately one hundred feet is a problem worthy of the most careful study and capable of many interesting solutions.

Too often it is a problem left partly solved or wholly unsolved by the average architect. The result is only too apparent on any of our good residential streets where well-designed houses show every evidence of having been aban-



Rear, C. J. Butler garden before planting.



Front, C. J. Butler house before planting.

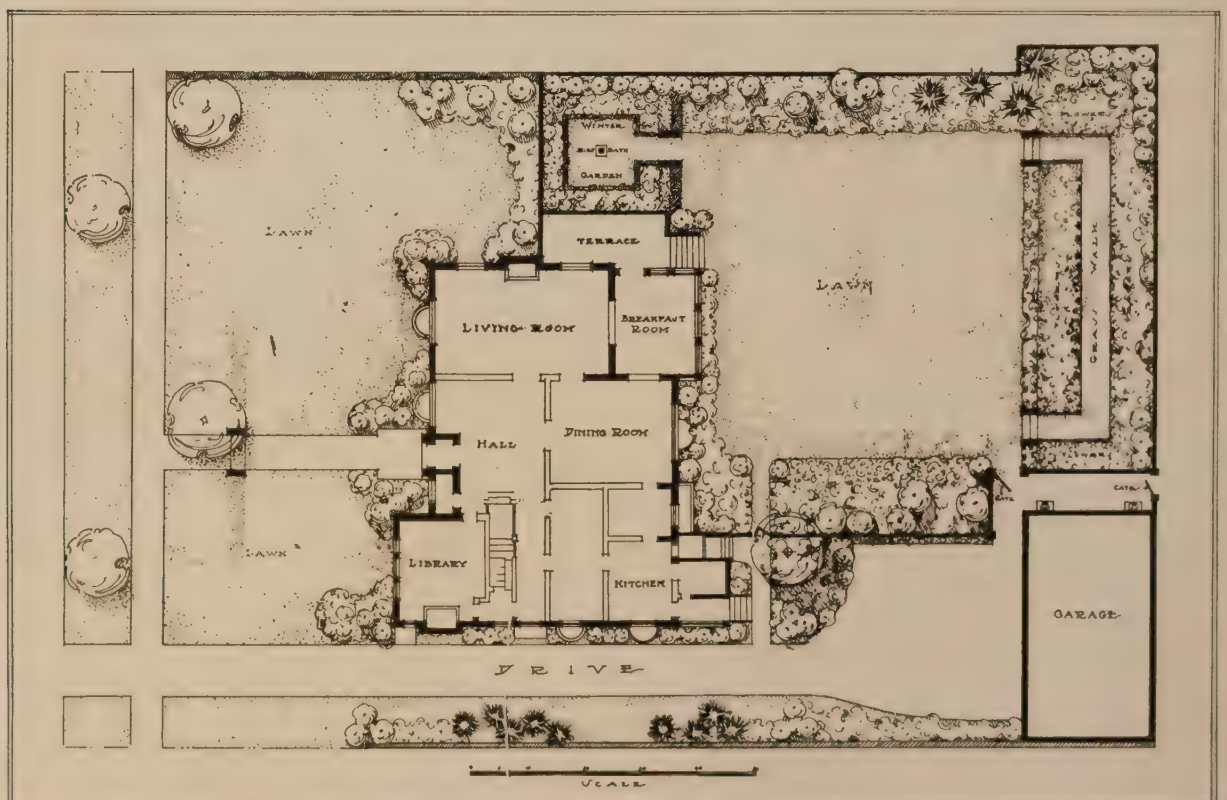
doned by the architect after the purely architectural work was completed.

It is difficult to appreciate the reasons for this neglect

on the part of the architects for they are most certainly desirous of having every one of their works as successful as possible, both as a matter of pride and of good business principle.

An appropriate setting is as important to a house as to a fine jewel. And by appropriate is not meant the haphazard planting of the grounds, but a well-conceived, thoroughly-studied scheme for the layout of the entire lot. Such a scheme embraces not only the planting, but the location of the house and garage, the arrangement of walks and drive, the practical handling of such utilitarian features as laundry, yard, coal delivery, and other service items, and finally the

(Continued on page 88.)



Plan, house and garden, C. J. Butler, Detroit, Mich.

BUTLER



HOUSE AND SMALL CITY GARDEN.

C. J. BUTLER, DETROIT, MICH.

Wm. Pitkin, Jr., Landscape Architect.



Side, C. J. Butler garden before planting.

design of the garden and its proper relation to the plan of the house.

Co-operation between architect and landscape architect is essential for the securing of such a practical, well-designed scheme. It is as foolish for the architect unfamiliar with planting material, to make the plan alone, as it is for the landscape architect to attempt the development of the lot without considering the architect, and recognizing the motives which prompt his design, and the definite effects which he is striving for.

Undoubtedly some successful city places have resulted from co-operation between architect and nurserymen, but in general this relation is unsatisfactory because the nurserymen do not understand design and have little appreciation of form which is so much more important in planting material than either color or horticultural interest.

Wherever possible the lot plan should be worked up prior to starting building operations, in order that the house plans (basement and first floor) may be studied with reference to the landscape architect's suggestions for walks, drive, service features and garden connections.

In many cases it has been impossible to carry out the ideal solution of the lot problem due to the fact that the house was set too high, or located a few feet too far one way or the other; the service portion was poorly arranged in reference to the proposed scheme, or the important windows and doors were placed in a poor relation to the garden. A very common difficulty is the location of the coal-bins on the wrong side of the house, necessitating a drive where the garden or lawn are desired.

Many very interesting lot plans may be worked out even after the house is built, which was the condition in all of the three Detroit problems illustrated in this article. However, in all of them there are difficulties which could have been overcome had the lot plan been made along with the house plans. For example, the garage turns are exceptionally poor in both the Butler and Kuhn plans, and might have been improved by a slight change in the arrangement of the garages or the service wings.

The residence of Mr. Charles J. Butler is located on a hundred-foot lot in Indian Village, Detroit, and as the photographs indicate, has houses on each side standing close to the property line.

The sun-room, dining-room, and terrace overlook the rear lawn which has been given complete privacy by a wall separating it from the street lawn, and enclosing it on the property lines. A well-designed lattice screens the service-yard and forms an interesting background for the planting against it.



Back yard garden, C. J. Butler, Detroit, Mich. Wm. Pitkin, Jr., Landscape Architect.



House and small city garden. Robt. Kuhn, Detroit, Mich.

In this plan, as in the two accompanying plans, it has been the intent to add apparently to the size of the property by keeping all grass areas as large as possible, and unbroken by planting. The house is large for the property, and the generous expanse of street lawn gives it a setting more in proportion to its size.

Similarly, the garden grass-plots have been made as large as possible, and the planting entirely confined to the borders, thus securing the maximum open area for play and for visual enjoyment.

The garden lawn is bordered by planting composed of flowering shrubs, hardy perennials, and a few choice evergreens for contrast of foliage and for winter value.

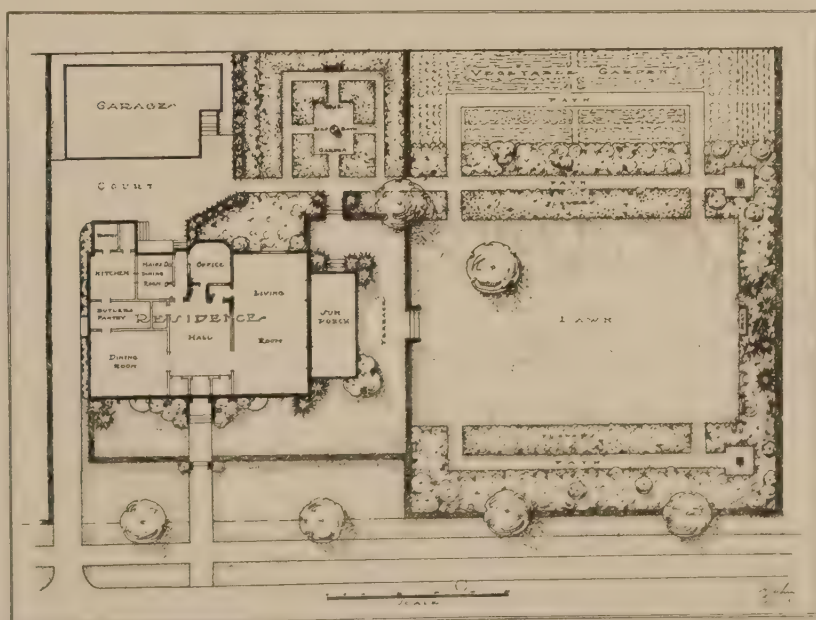
The cutting garden at the rear is separated by a hedge of *Spirea Van Houttei* which gives it a desired amount of mystery without apparently

cutting down the depth of the garden as the eye carries over the hedge to the tall planting of evergreens against the wall screening the alley.

The rose-covered arches provide interesting glimpses of the garden, and repeat the note of the lattice—all of which are painted brown.

The little winter garden is designed for intimate inspection from the living-room and terrace, and completes an evergreen composition, of which the tall cedars form the background and completely screen the service wing of the neighboring house. A marble bird-bath in the centre of the grass panel of the winter garden makes a high light in the composition and adds to the interest.

For contrast with the evergreen planting, the garden contains a few azaleas, narcissus, and Darwin tulips



Plan, garden, Robt. Kuhn, Detroit, Mich. Wm. Pitkin, Jr., Landscape Architect.



Planting at main entrance, Robt. Kuhn, Detroit, Mich.

for spring flower; white phlox and lilies for summer, and white anemones for fall, all carefully limited in quantity to be in scale with its size.

The property of Mr. Robert Kuhn is very shallow, only 125 feet, but has a width of 200 feet. The house stands on the north half, leaving a generous area on the south for lawn, garden, and vegetable garden.

The plan provides a high hedge and a heavy screen of planting along the street to screen the garden, but leaves an adequate street lawn in front of the house. A low untrimmed hedge of Japanese barberry is planted on top of the 18-inch south and west terraces and gives the house a snug architectural setting.

The planting against the house and porch is composed of a very few plants carefully grouped which give the required setting as well as privacy. This garden also consists of a large central grass panel with straight lined borders of flowering perennials backed up by heavy shrub borders. The walks between flowers and shrubs are of grass and serve as practical ways of getting about, as well as forming very attractive vistas terminated by the white figures set among the planting at the south ends.

The small rose-garden has an intimate relation to the living-room and porch, and is securely enclosed by the heavy hedge of cedars on the north, and the hibiscus on the south and east. Its grass walks and panel make a good background of green for the roses. The bird-bath and garden-seat are fine Italian marble, and are worthy terminals of the two main axes.

The vegetable garden, while well screened by planting is an interesting feature of the place as an excellent example of intensive farming.

(Continued on page 92.)



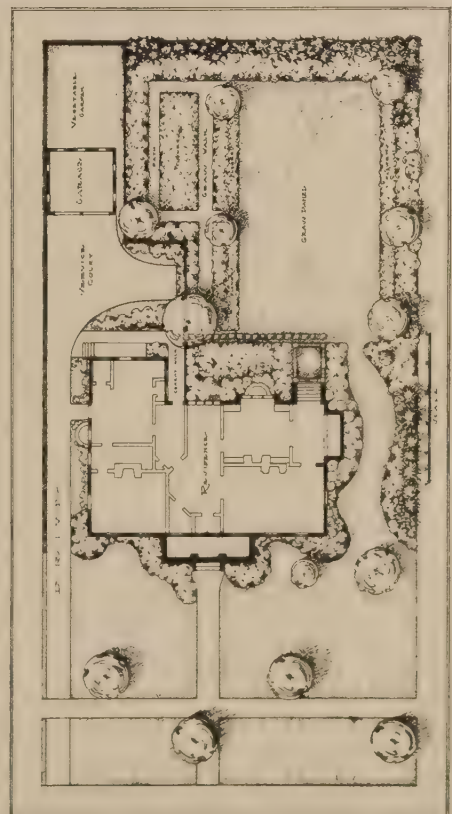
The back yard garden, Robt. Kuhn, Detroit, Mich. Wm. Pitkin, Jr., Landscape Architect.



FRONT.



HOUSE AND SMALL CITY GARDEN.



PLAN. • Wm. Pitkin, Jr., Landscape Architect.

MRS. A. C. ANGELL, DETROIT, MICH.

The grounds about the residence of Mrs. A. C. Angell, also in Indian Village, Detroit, again illustrate the value of open lawn areas for a house which is very wide in proportion to the lot.

The maximum grass panel is again secured in the garden and the line of the planting borders are straight in recognition of the lines of the enclosing fences and lattice.

A little mystery is introduced by separating the panel and grass walk portion of the garden by planting of intermediate height, which also makes a frame for the view from the hall windows.

The planting against all these houses is composed of shrubs and evergreens chosen primarily for their form, either as specimens or in groups, and is arranged to recognize the architectural design, and to properly emphasize both the vertical and horizontal lines. The sky-line of the planting is considered as of great importance, and as the photographs show the masses are arranged so as to reveal the architecture instead of burying it, as is so often the case. The result is an appropriate setting into which the house fits pleasingly and harmoniously.

The use of good-sized nursery stock instead of the usual small plants is justified by the immediate effects secured,

and the difference in cost is surprisingly little when the buyer is familiar with the quality of the material grown by different concerns. In the photographs shown, all the material was good sized and made a very satisfactory showing at the end of the first year, which is a result pleasing alike to client, architect, and landscape-architect.

Architects often feel that the cost of securing such a setting for their houses is out of proportion to the size of the property, but the truth is that the cost is very little, in that the work is necessarily so limited by the restricted space. On the class of city residences ordinarily built on 100-foot lots, the cost can be estimated as low as 4% of the cost of the house, and will seldom exceed 10% even for the most pretentious scheme. This will include material and labor, and the professional services of the landscape-architect.

Surely where nature has so little opportunity as on the city lot, it is doubly imperative that human skill should be employed to soften the hard conditions, and to give shade and green foliage around our homes. And to accomplish this in an orderly manner, with proper appreciation of the demands of good design, convenience and amenity, is indeed well worth the consideration of the serious architect.

Modern Building Superintendence

By David B. Emerson

CHAPTER VII

PLUMBING AND DRAINAGE

IN an earlier chapter, we mentioned that the plumber installed the soil, waste, vent, and leader lines close behind the steel erectors, so that when the frame was up and the floor slabs set, the lines were all in and most of the roughing for the fixtures was already done. All of the stacks were specified to be of galvanized wrought-iron pipe; this was done after a careful study of conditions. There is no question but that cast-iron pipe is far more corrosion-resisting than wrought iron, in fact it seems to last indefinitely under almost all conditions, but there is one great objection to cast-iron pipe, especially in tall buildings, and that is, the joints. The unequal expansion of lead and iron is something which cannot be overcome, and the joints in tall stacks of cast-iron pipe are always liable to leak, whereas the screw joints in wrought-iron pipe are steam, gas, and water tight, and under almost all conditions remain so. The only point is to be careful to get a genuine puddled wrought-iron pipe, and not a steel pipe. All of the pipe used throughout the building was standard weight lap welded pipe, and the fittings were recessed, screw jointed, galvanized cast-iron drainage fittings. The ends of all pipe were reamed out to remove the burr caused in cutting. All pipe and fittings were screwed together, and made perfectly tight without the use of red lead or pipe cement. The soil stacks were five inches in diameter, which is ample for a building of any height, and with any number of fixtures; the waste stacks for the lavatories in the offices were all three inches in diameter; and the leaders were proportioned so that they had one inch of sectional area of pipe to every two hundred and fifty square feet of roof area drained. In this instance, the area of the surface drained by each leader was about seventy-five hundred square feet, so six-inch leaders were sufficiently

large for the purpose. All of the stacks were supported at their base by means of iron pipe rests placed directly under the stack, and they were supported at each floor by means of iron hangers securely fastened to the floor beams. Venting was done by the circuit system of venting, using the yoke type of vent for all batteries of fixtures in the toilet-rooms on the various floors. The vent stacks were four inches in diameter, and were carried up through the roof in all cases. The house drains and house sewers were laid with a pitch of one-half inch to each foot of horizontal run, and as the total roof area was about thirty thousand feet, two lines nine inches in diameter were required. The house drains were hung from the steel floor beams by means of heavy wrought-iron hinged pipe hangers, and where they ran under the basement floor, they were run in concrete trenches and were set upon brick piers placed every ten feet in the length of the pipes. Brass screw cap clean-outs were placed in the lines at points where they could be easily rodded to remove obstruction. The house sewers were of salt glazed earthenware pipe, ten inches in diameter, with joints made by means of oakum gaskets, and one to one portland cement mortar, and connected with the city sewers in the streets. As the plumbing fixtures in the sub-basement were located below the sewer level, a cast-iron sewage receiver was installed, fitted with a duplex ejector consisting of two centrifugal pumps operating in a dry pit, and driven by vertical electric motors mounted on the extended receiver cover, and equipped with automatic controllers operated by a simple float mechanism, which started one of the motors when the sewage reached a certain level in the receptacle. The adjustment of tappets on the float rod was such that in case of the failure of one pump to start, a further inflow of sewage would cause

the other unit to start. The sewage was discharged into the receiver, forced out by the ejector, and discharged into the sewer. In case the dry pit became flooded from any cause, the ejecting pumps were fitted with auxiliary valves to pump out the pit. For the handling of seepage water, leaks, etc., a sump pit was located in the sub-basement fitted with a grated top. In this pit was installed a water ejector, fitted with a float which, when it reached a certain point due to the rise of water, automatically opened the valves in the water-supply pipe, which threw a jet of water into the exhaust line, and by creating a partial vacuum sucked out the water. The ejector, although of small size, having only a one-inch supply, would lift eight hundred gallons of water an hour on a twelve-foot head. When the lines were all in and ready for the fixtures, the system was thoroughly water tested; the testing being done in sections to avoid excessive pressure, on account of the height of the stacks. The testing was begun at the upper part of the system, and the several sections were tested down to and including the house drain. The ends of the pipe were closed with testing stoppers, and the stacks were filled from the bottom, letting the water rise slowly to the top. Any leaky joints that were found were made tight.

The water-supply was taken from the mains in both streets, so that in the event of one main being temporarily out of service, the building would not be left totally without water-supply. Each supply line was five inches in diameter, of extra heavy galvanized wrought-iron pipe; the connections to the street mains were made by means of special connections. Each line had a gate valve at the curb, with a cast-iron service box, and a T-handle operating rod, so that the supply could be cut off at the street if necessary. The supply lines were cross connected before being connected to the meter. A fish-trap was installed in the line directly in front of the meter. From the meter the lines ran to the filters, which were of the vertical pressure type, built with cast-iron shells. The filters set upon concrete bases, and had waste funnels which connected with the house drain. After leaving the filters, the house main had branches to the boiler feed-pump in sub-basement, the cold-water air-drum for supplying the lower three stories of the building, the hot-water tank which supplied the three lower floors, and to the suction tank; two other branches were connected directly to the suction pipes of the two pumps, so that in an emergency they could pump directly from the city mains. The house pumps were six stage, turbine pumps, with a capacity of one hundred and fifty gallons per minute, operated by twenty-five hp. electric motors. The suction pipes of the pumps were connected to the suction tank, and were provided with strainers at the tank to prevent foreign matter from entering the pump. The suction tank was constructed of wrought-iron plates, with the seams riveted and caulked, and had a capacity of two thousand gallons. The supply pipe to the suction tank had a reducing manifold header, fitted with four ball cocks. A two-and-one-half inch pipe was taken from the pumps up to the house tank on the roof; this tank was made of cypress, with a frost-proof cover, and had a capacity of five thousand gallons. All supply pipes to the tank were thoroughly insulated to prevent freezing. The overflow from the tank and the emptying pipe discharged onto the roof. The tank was equipped with an automatic float switch, which started the pump motors when the supply of water in the tank was lowered, and stopped them when the tank was filled again. The distributing main from the tank was carried down through the building and distributing branches were taken off at each floor-to supply the fixtures on that floor. The main terminated in the base-

ment, and was connected to the hot-water drum which supplied the upper stories of the building. The supply line had a check valve in the basement, to prevent the water from running back to the street mains. The hot-water system consisted of two steel drums fitted with a series of U bends of copper tubing, mounted in parallel, and having steam connections from an auxiliary boiler which heated the Turkish bath during the summer months, and from the main heating system during the winter months. The hot-water drums were provided with heat regulators which, when the water had reached a temperature of two hundred degrees Fahrenheit, cut off the steam supply from the coils, and as soon as the temperature of the water in the drum fell, the valve opened and the steam was again admitted. This prevented overheating the water, which causes steaming at the faucet, and the unpleasant sputtering which accompanies it. The distributing mains were taken off the distributing manifolds, and were carried through the building to supply the fixtures and had circulating pipes running back to the circulating manifolds, and then back into the drums. The hot water risers and the circulation pipes had expansion loops eight feet long, at the sixth and the thirteenth floors, to take care of the expansion and contraction of the pipes. The pipes were fastened midway between the loops and allowed to expand both upward and downward. All lines, both for hot and cold water supply, were valved, just above the manifolds, and all of the branch lines were valved so that any line or branch could be cut off without affecting the rest of the system. The valves on all vertical lines were soft seat globe valves, and gate valves were used on all horizontal lines. The ice-water system was operated by means of an automatic refrigerating machine installed in the basement and operated by an electric motor, controlled by an automatic starter with a thermostatic control. The cooling was done in a cooling tank having a capacity of seven hundred gallons, a constant level being maintained by means of a float valve. The cooling coils were so placed that the lower pipes were submerged in the water and the return circulation sprayed over the upper pipes. The thermostat, which controlled the temperature of the water, was submerged in the water, and the operation of the ammonia compressor was automatically controlled by the rise and fall of the temperature of the water. The supply to the tank was taken from the descending main from the house tank. From the cooling tank, a main supply line one and one-half inches in diameter was carried up through the building; branches were taken off at each floor to supply the offices, and the drinking fountains in the corridors on each floor. The system was arranged so that there would be no dead ends, and a circulating pipe returned the water to the cooling tank. The cooling tank and all of the pipes were insulated with cork covering made from pure granulated cork pressed into moulds, baked, and then coated with a water-proof finish. When the construction had advanced sufficiently, and the tile floors were laid, the work of installing the fixtures was commenced. The Turkish bath in the basement was fitted with the necessary shampoos, needles, showers, and hydrotherapeutic apparatus; and the building was also equipped with stand-pipes, hose-reels, fire-pumps, and other fire protective devices, all of which will be fully described in a later chapter. The water-closets in the clerks' toilet-rooms in the bank and in the general toilet-rooms throughout the building were of the suspended syphon jet wall type closets, with extended front lips. The closets were supported on cast-iron chair hangers which were set before the tile floors were laid, and the closets were bolted to them through the slabs at the back of the enclosures.

The connection between the closets and the branch soil lines was made by means of long lead bends, which gave a flexible connection between the closet and the pipe, and prevented any damage from settlement. This type of closet is undoubtedly the best for use in fireproof buildings, as all piping is kept above the floor slabs, also the closets are entirely free from the floor, so that they may be easily cleaned under. The seats were of the saddle hole, open front and back type. The flushing of the closets was done by means of push-button valves, concealed in the floor, which is one of the most satisfactory methods of flushing fixtures, as the user does not have to touch levers, push buttons or pulls with the hand. All of the urinals were of porcelain with interlocking fronts, which did away with all partitions, and made practically a single unit out of each battery of urinals. The flushing was done by means of push-button flush valves, the same as used in the water-closets. The lavatories throughout the building were of heavy vitreous china, with integral backs eight inches high, secured to the walls by means of concealed iron wall supports, and having vitreous china standards. The lavatories had "pop up" waste fittings, which are as near fool-proof as can be made. The supplies on the lavatories had crown handle, self-closing, ball-bearing basin cocks. It is always a good practice in public and semipublic buildings to use self-closing cocks, as they prevent the waste of water, also the damage which might be caused by leaving the cocks open, overflowing the basin and flooding the room. The crown handle is about the best type of cock for this class of work, as it is practically impossible to fasten it open as can be done with arm, lever, tee, or rabbit-ear handles. The ice-water cocks were of the push-button type, and were set in the backs of the lavatories,

which were specially drilled to receive them. The traps for all lavatories were of the non-syphon type as the city ordinances allowed the use of approved traps of this pattern. The particular trap selected for this work had been thoroughly tested and proven satisfactory, so was installed. Non-syphon traps, which are positive in their seal, are undoubtedly far better than any system of venting as in most cases the vents get closed up at their opening, and do not work after a few months, also the venting of a large number of fixtures makes a maze of concealed pipes, which may eventually corrode out and become a nuisance instead of a benefit. All of the porcelain and vitreous ware was inspected to see that no warped, cracked, crazed, nor discolored pieces were included in the shipments, and one or two being found they were ordered sent back to the manufacturers, and perfect pieces sent to replace them. All of the brass pipe for supplies and waste was specified to be iron pipe size; that is, the diameters were to be inside diameters and not outside diameters, as is the rule with brass tubing. All were to be solid drawn tubing of the standard thickness. When the fixtures were all installed and the plumbing system was complete, the entire system was smoke tested. Smoke testing was done by closing the tops of all of the stacks at the roof, and pumping the system full of a dense pungent smoke produced by burning oakum or oily waste, and forcing it through a rubber hose into the lower part of the system. If there are any leaky or imperfect joints, or any cracks in the pipes, or fittings, or defective seals in the traps, it is easily detected by the smoke issuing from it. The system tested out perfectly and was accepted, and our work was now practically completed, except for finishing up a few items which will be taken up later.

Origin of "Watch Your Step"

FROM an analysis of nearly ten thousand accidents recently reported by manufacturers, chiefly electrical, in the United States, the highest percentage of those that occurred outside the companies' premises were attributed to slipping, tripping, and falling, hence the origin of "Watch Your Step." This means that the greatest danger lying in wait for a man in his hours of leisure is the pavement beneath his feet. The highest percentage of falls came from those occurring on the level, while others came in the following order of seriousness: from elevations, from ladders, over obstructions, on stairs, from poles, into excavations, from temporary supports, and from scaffolds.

On the companies' premises "handling material" comes first. Accidents from electric current—from shock, burns, eye-flash—rank fourth in a list of eighteen classes of accidents. Only .7 per cent of all the accidents reported were due to exhaustion from heat, which seems strange—one imagines that more suffer from heat prostration than is actually recorded. From a general consideration injuries to fingers were highest, eyes next, and ears last in a classification of thirty-five anatomical locations. From the standpoint of occupation linemen ranked first and carpenters lowest.

Perhaps the most interesting classification is that which considered the length of service. Of all the accidents reported 25.9 per cent, or the highest single percentage, had all been in the employ of the companies less than six months. Those veterans of over twenty years' service contributed only 1.1 per cent to the casualty list. To determine the seriousness of the various causes of accidents by considera-

tion of the number only resulting from each cause is misleading. While only 8.3 per cent were injured by electric current, these accidents were responsible for over 70 per cent of the total lost time and 70 per cent of the serious and fatal accidents. The fact is, however, and it is encouraging, that 75 per cent of this class of accidents are preventable when the proper safety devices, such as enclosed switches, rubber gloves, etc., are installed, while falling will continue as long as man fails to "Watch His Step."

Indiana Limestone in the Movies

BUILDING stone may seem a cold, hard proposition, but the motion-picture camera has found human interest in the Oolitic Limestone Quarries of southern Indiana. A three-reel film which has been completed for the Indiana Limestone Quarrymen's Association by the Rothacker Film Manufacturing Company presents a novel industrial romance. It pictures the wonderful machine methods employed in quarrying and the large modern factory system used in connection with the preparation of Indiana limestone for the market.

The Story of Brick

We take pleasure in acknowledging the receipt of a very attractive and suggestively illustrated booklet, "The Story of Brick—The Permanence, Beauty and Economy of the Face Brick House." Published by The American Face Brick Association, Chicago.

Harold McGill Davis

HAROLD MCGILL DAVIS was born in Jerseyville, Ill., on August 26, 1860, and was the son of Samuel W. and Mary J. McGill Davis. His early boyhood was spent in Kansas, where his father held the office of treasurer of the town of Paola, to which he was elected thirteen consecutive years. Harry, as he was called by his friends, had a public-school education, finishing in the St. Louis High School, after which he obtained the position of office boy in a lead and oil factory. While in high school, a cadet corps was organized and afterward mustered into the Second Regiment of the National Guard of Missouri. He became a second lieutenant and was a member of a picked squad which gave exhibition drills and fancy evolutions. After several years with the lead and oil company, he resigned and was appointed chief clerk of the St. Louis U. S. Assay Office, receiving the appointment from President Chester A. Arthur. A government position was too slow and uncertain for an ambitious boy, so he came to New York to study architecture. Being active in church work, he was elected president of the Brooklyn Christian Endeavor Union in 1901, an organization numbering some six thousand members, and the following year was made chairman of the printing committee in connection with the Christian Endeavor Convention, held in Madison Square Garden, with a total attendance of sixty thousand delegates. The financial panic of 1893 offered him a chance to get into the advertising profession, in which he had some experience while in St. Louis as a writer and designer. Afterward he became connected with an advertising agency, thus broadening his experience and fitting himself for his final position as manager of the advertising department of the Sprague Electric Works of the General Electric Company, which he obtained in December, 1899.

His ability as a writer and designer gave him an advantage over other solicitors which publishers were quick to recognize and resulted in the formation in leading publishing plants of what is now known as the service department.

Aside from his advertising, he frequently contributed to the papers poems, both religious and humorous, and articles of description.

An Industrial Arts Council

THE Industrial Arts Council has recently been organized to develop ways and means for establishing a practical method of educating American designers and craftsmen. At the first meeting, held in February, twenty-nine industrial, art, and educational organizations were represented by delegates. W. Frank Purdy, of the Gorham Company, was elected chairman, and John Clyde Oswald, editor of the *American Printer*, vice-chairman.

The organizations represented included: Association of National Advertisers, Architectural League of New York, Art Alliance of America, Chamber of Commerce of the State of New York, Association of Commercial Artists, Paper Cover Manufacturing Association, National Society of Craftsmen, National Society of Decorative Arts and Industries, Dress and Waist Association, National Retail Dress and Goods Association, Association of Manufacturers of Decorative Furniture, National Ornamental Glass Manufacturers Association, American Institute of Graphic Arts, Greeting Card Association, Society of Interior Decorators, Jewelry Crafts Association, National Society of Manufacturers of U. S., Millinery Chamber of Commerce, Monu-

mental Crafts Association, Municipal Art Society, National Arts Club, Public Education Association, School Art League, School Crafts Club, Silk Association of America, Sterling Silverware Manufacturers, Society of Illustrators, Toy Manufacturers, Upholstery Association of America, and Wall Paper Manufacturers' Association of the U. S.

Mobilizing our forces is necessary, and the Industrial Arts Council can do much to bring this about. Every manufacturer should feel it his duty and his privilege to aid in this movement. Further details can be secured from the office of the Council at 10 East 47th Street.

Labor Costs

LABOR is more efficient than a good many post-war croakers make it out to be. That, at any rate, seems to be the conclusion to be drawn from recent cost computations made by the Aberthaw Construction Company.

SOME CHEERING NEWS "It is too early to venture any broad generalizations," says Dan Patch, statistician of the company, who has been making these computations. "Yet I feel justified in saying a word of what should be encouragement to those who see only gloom in the labor situation.

"The Aberthaw Company keeps very carefully tabulated data of unit costs on different jobs. These it uses to establish averages that shall be available in checking the relative efficiency of subsequent undertakings. In figuring labor costs per unit of accomplishment, it is, of course necessary to adjust the wage rate to a common standard. Hence, the computation really expresses itself in terms of labor hours expended on a given unit.

"During the war, labor costs, both relative and absolute, went alarmingly skyward. How much of this was due to dilution of the trades through the injection of vast numbers of unskilled workers, how much to sheer war demoralization, and how much to profiteering through shirking, no man can say. The fact remains that costs were high.

"Now they are coming down again. That is to say, carpenters, masons, painters, and glaziers appear to be turning out as much work in an hour as they did before the war. In certain of our jobs, even, there are faint indications of improvement over earlier averages. To be sure, the men are not accomplishing as much in a week—even with overtime added—as they did under a longer working day: forty-eight hours have not been made as productive as were fifty-four hours. Nevertheless, there is satisfaction in possessing statistical evidence that during the hours when labor is supposed to be at work it is actually working."

HOUSE heating with gas which enables the owner to heat his home automatically from October to May without any of the annoyance of attending to a furnace or boiler at a cost comparable with coal is described

HEATING WITH GAS in detail in a special number of *The Gas Age*, 52 Vanderbilt Avenue, New York, N. Y., recently issued. Gas for fuel may be used in any standard system of heating such as steam, hot water, vapor vacuum, and warm air. Installations of each kind are described and illustrated and the accompanying data gives the necessary engineering data and costs. Often comparative costs with coal are given. In addition to this, the various systems by which gas is sold in the United States, such as block rates, secondary rates, special rates, and regular rates are described. With the exception of the latter, all make it possible to heat a house with gas as cheaply or only slightly more expensive than with coal. Installations with

actual consumption figures under each method of selling gas are described and illustrated.

Necessity for Careful Chimney Construction

THE charred remains of one year's fires in the United States would line both sides of a highway 1,000 miles long, and yet 80 per cent of this is preventable, says a recent issue of the Bulletin of the State Fire Marshal of Minnesota.

A summary of the fire causes in various States shows that fires attributable to chimneys amount annually to from 10 to 26 per cent of the total number, and in winter the percentage has reached as high as 50 per cent. Especially in rural districts where there are no organized fire-fighting agencies, builders should give unusual attention to the construction of chimneys that they may be made as nearly fireproof as possible.

Chimneys should not be built on brackets; they should extend a sufficient distance above the roof, their walls should be at least eight inches thick, flues should not be less than sixty-four square inches, the flue-holes should never be filled with inflammable material, and good flue-linings of fire clay or terra-cotta should be provided. The cost of such lining in an ordinary two-story residence would be nominal.

With the present tremendous demand for new buildings and the consequent speeding up of work, especial care should be taken to prevent carelessness in chimney construction.

Along the same lines the National Fire Protective Association is pushing a vigorous campaign, emphasizing the present need of dwellings and the extreme necessity of protecting from fire the homes we already have. It advocates care about matches, smoking, lighting and heating apparatus, and gasoline, and urges a clearing out of rubbish, inspection of flues, and cleaning of chimneys, that sparks may not fall on combustible roofs.

Chicago Our Greatest Lumber Market

CHICAGO continues to maintain its position as the world's greatest lumber-distributing market, says a prominent lumberman in the *Chicago Daily News*. The year 1919 represents the most varied conditions in the history of the business. After the signing of the armistice there was a hesitancy in every line of trade, and especially in the lumber industry. March brought improvement over the sluggish demand of January and February, and as the spring advanced the shortage of homes became more apparent, and with the "Own Your Home" propaganda conducted by many agencies there came a keen demand for lumber in May, which has been increasing ever since.

The building strike during the summer resulted in a practical tie-up of all construction work. Not only did a heavy loss fall upon employees because of stoppage of wages and did the public suffer because of lack of homes, but the city witnessed the postponement, in some cases indefinitely, of construction of many manufacturing and other substantial buildings.

Prospects for a big building year in 1920 are exceptionally good, especially if the expected replenishment of cars and railroad construction by the Railroad Administration is realized. The indications are for a firm market, continues this lumber authority, adding: "When the public accepts the idea that there will be no material decline in lumber prices, and dismisses the thought that before long it may be able to build as cheaply as in pre-war days, building will not be delayed."

Large stocks are still available in the various lumber-yards of the city, and the prospects for the future are bright, both for the lumber business and for the public which is in great need of additional housing facilities.

A National Zoning Committee

A NATIONAL Zoning Committee to watch the progress of zoning throughout the country, with power to take measures to sustain building regulations, was appointed by the American City Planning Institute at its convention at Niagara Falls and Buffalo at the end of May. The committee consists of Lawson Purdy of New York, president of the National Municipal League and vice-president of the American City Planning Institute, chairman; Charles H. Cheney of San Francisco and Berkeley, California, vice-chairman; Herbert S. Swan, executive secretary of the New York Zoning Committee, secretary, 277 Broadway, New York City; Edward M. Bassett, Esq., president of the Zoning Commission of New York City; Mr. Stephens of San Francisco; Andrew Wright Crawford, Philadelphia; Doctor Robert H. Whitten, consultant of the Cleveland City Planning Commission, and Harland Bartholomew, consultant of the St. Louis City Planning Commission.

The National Zoning Committee may be consulted with regard to the form of city planning ordinances and especially with regard to measures necessary to sustain them when they have been enacted.





YORK MINSTER, WITH CHAPTER-HOUSE.